## INDEX OF AUTHORS' NAMES.

# TRANSACTIONS AND ABSTRACTS. 1919.

(Marked T., and A., i and A., ii respectively.)

#### A.

Abbott Laboratories, The, \$B-bromoethyl p-nitrobenzoate, A., i, 206.

Abderhalden, Emil, behaviour of yeast towards various carbohydrates in concentrations, and the effect of the addition of aminoacids on the fermentation, A., i, 109.

cystine of urine and of urinary calculi, A., i, 236.

Abderhalden, Emil, and Egon Eichwald, optically active propylene glycol and optically active β-hydroxybutyric acid, A., i, 2. synthesis of optically active glycero-

phosphoric acid, A., i, 3.

Abderhalden, Emil, and Andor Fodor, ferment action. IV. Further studies on the adsorption of mixtures of amino-acids with polypeptides and other substances; behaviour of amino-acids and polypeptides towards albumin solutions, bloodserum, and during the coagulation of sols, A., i, 368.

ferment action. V. Ultrafiltration experiments with mixtures of aminoacids or polypeptides with yeast juice; evidence for the colloidal condition of ferments and extension of the adsorption theory, A., i, 369.

ferment action. III. Adsorption of amino-acids and polypeptides by animal charcoal; relation of the observed appearances to the cleavage of polypeptides by yeast juice, A., ii, 49.

ferment action. III. Adsorption of amine-acids and polypeptides and also of various carbohydrates by animal charcoal, A., ii, 50.

Abderhalden, Emil, and H. Schaumann, influence of certain substances extracted from yeast by alcohol on the activity of the yeast enzymes, A., i,

Abderhalden, Emil, and Hans Spinner, synthesis of polypeptides of which cystine forms a constituent, A., i, 576.

the problem of the physiological poly-

peptide synthesis, A., i, 583.

Abel, John Jacob, and Seiko Kubota, presence of histamine (8-iminazolylethylamine) in the hypophysis cerebri and other tissues of the body and its occurrence among the hydrolytic decomposition products of proteins, A.,

Abelmann, Arthur, a colour reaction which may be used for the detection of mercury in mercury compounds, A., ii, 428.

Abelous, Jacques Emile, and Jules Aloy, inversion of sucrose by mechanical ionisation of water, A., i, 310.

oxyhydrase, an oxidising reducing ferment; its antitoxic function, A., i, 365.

Abram, Harold Helling. See Thomas Martin Lowry.

Acree, Solomon Farley. See R. T. Birge, Charles L. Brightman, and E. C. White.

Ackermann, Franz. See Fritz Fichter. Adams, Elliot Quincy. See Edgar Theo-

dore Wherry, and Louis Elsberg Wise.

Adams, Leason H., and Erskine D.

Williamson, physical constants of "mustard gas" [ $\beta\beta$ '-dichloroethyl sulphide], A., i, 118.

Adams, Leason H., Erskine D. William son, and John Johnston, determination of the compressibility of solids at high pressures, A., ii, 98.

CXVI. ii.

Adams, Leason, H. See also R. E. Hall. Adams, Roger, phenols insoluble in alkali hydroxides, A., i, 160.

Adams, Roger, Oliver Kamm, and C. S. Marvel, organic chemical reagents. II. Amylene; tert .- amyl alcohol, A., i,

Adams, Roger, and R. E. Rindfusz, cyclic ethers from o-allyl phenols; methylenecoumarans [1-methylene-1: 2-dihydrobenzofurans], A., i, 340.

Adams, Roger, and E. H. Vollweiler, the reaction between acid haloids and

Adams, Roger, and V. Voorhees, organic chemical reagents. IV. The preparation of alkyl iodides, A., i, 306.

Adeney, W. E., and H. G. Becker,

determination of the rate of solution of atmospheric nitrogen and oxygen by water. I. and II., A., ii, 104, 510. Adkins, Homer. See William Lloyd

Evans. Adler, Leon. See Duncan A. MacInnes.

Agostini, P. See Nicola Parravano. Agrestini, Angelo, the value of Walker's method of estimating casein in milk, A., ii, 176.

Ahlqvist, Alfred,carbamylglycollic acids, A., i, 435.

Ainslie, D. S., and D. S. Fuller, new lines in the extreme ultraviolet of certain metals, A., ii, 309.

Ainslie, D. S. See also John Cunningham McLennan.

Aita, A., rational preparation of superphosphates, A., ii, 25.

Akermann, A. See Hans Rupe. Albers, Agnes. See Rudolf Schenck.

Albert, August, derivatives of the indole and indigotin groups substituted at the nitrogen atom, A., i, 99.

Albert, August, and Leopold Hurtzig, new derivatives in the indole and indigotin groups; isatin. III., A., i, 350. Albert, Talbot J. See Heinrich Wie-

land.

Aldrich, Thomas Bailey, derivatives of trihalogeno-tert.-butyl alcohols. II. The propionic and butyric esters of tribromo-tert.-butyl alcohol (brometone), A., i, 62.

an efficient laboratory funnel for filtering neutral liquids, especially the volatile organic solvents, A., ii, 146.

Alemany y Selfa, José, the amalgamated copper cathode in electro-analysis, A., ii, 519.

Algar, Joseph. See Hugh Ryan.

Alilaire, E., spontaneous inflammation of mixtures of air and ethyl ether vapour, A., i, 194.

Allemann, O., and Hans Schmidt, milk

coagulation and the physical condition of milk curd, A., i, 235.

Allen, Eugene Thomas, and Emanuel George Zies, methods of glass analysis, with special reference to boric acid and the two exides of arsenic, A., ii,

Allison, Vernon C., device for removing plugs from stopcocks, A., ii, 280.

Allison, Vernon C., and M. H. Meighan, estimation of methyl chloride in gas mixtures, A., ii, 527.

Allison, Vernon C. See also G. W. Jones.

Allmand, Arthur John, and Wilfrid Gustav Polack, the free energy of dilution of aqueous sodium chloride solutions, T., 1020.

Almström, G. Karl, some derivatives of pyrrole. IV, A., i, 93.

micro-methods for the determination of carbon and moisture in minerals, A., ii, 350.

Alons, C. L. See Hartog Jakob Hamburger.

Aloy, Jules. See Jacques EmileAbelous.

Alsberg, Carl Lucas. Sec Joseph F. Brewster.

Alstine, E. van, absorption pipettes, A.,

Alvárez, Hector H. See Hercules Corti. Amadori, Mario, pyromorphite group, A., ii, 195.

anhydrous phosphates, arsenates, and vanadates of lead, A., ii, 413.

Amadori, Mario. See also Giuseppe Bruni.

Amin, Bhailal M., an improved method of preparing indican from indigo-yielding plants, A., i, 283.

Aminoff, G., nasonite from Långban, Sweden, A., ii, 110.

Anderson, C. O. See W. L. Argo.

Anderson, Ross P., analysis of natural gas and the calculation and application of results, A., ii, 249.
Andersson, Hugo. See Theodor Sved-

berg.
Ando, Hidezo, behaviour of cinnamic acid and its derivatives in the animal bod**y, A., i,** 366.

Andre, Gustave, distribution of the mineral elements and nitrogen in the etiolated plant, A., i, 110.

Andreasch, Rudolf, aldehyde derivatives of rhodanines and their fission products. I., A., i, 96.

Andrew, John Harold, a few suggestions on the theories of occlusion of gases by metals, A., ii, 450.

Andrewes, Frederick William, accuracy of different methods of measuring small volumes of fluid, A., ii, 294.

Andrich, K. See Max Le Blanc.

Angel, Andrea, new compounds to be employed as colouring matters or in the production of colouring matters, A., i, 98.

Angeli, Angelo, transformations of nitrocellulose, A., i, 196.

formation of azoimide by oxidation of hydrazine, A., ii, 149.

Angeli, Angelo, and A. Pieroni, new mode of formation of pyrrole-black, A., i, 134.

Anger, Gerda. See Emil Fischer.

Anslow, Gladys A., the logarithmic law connecting atomic number and frequency differences in spectral series, A., ii, 486.

Antonoff, George Nicolaevich, surface tension and chemical interaction, A., ii, 392.

Antropoff, Andreas von, the solubility of the inert gases in liquids, A., ii, 511.

Apitzsch, Hermann. Sec Wolfgang **W**eichardt.

Applebey, Malcolm Percival, sodium hypochlorite, T., 1106.

Archibald, Ebenezer Henry, and Y. Habasian, solubility of aluminium hydroxide, A., ii, 66.

Archibald, Ebenezer Henry, and John W. Kern, solubilities of ammonium platinichloride, platinibromide, and iridichloride and the separation of platinum and iridium, A., ii, 70.

Archibald, Ebenezer Henry, and L. A. Piguet, electrolytic deposition of iron from organic solvents, A., ii, 45.

Argo, W. L., Frank Curry Mathers, B. Humiston, and C. O. Anderson, electrolytic production of fluorine, A., ii, 333.

Ariès, E., application to eight different substances of the formula which expresses the heat of vaporisation of a liquid, A., ii, 136.

formula giving the density of a fluid in the saturated state, A., ii,

direct determination of the temperature exponent in the equation of state of fluids, A., ii, 266.

the saturated vapour pressures and the heats of vaporisation of propyl acetate at different temperatures, A., ii, 317.

the density of the saturated vapour of propyl acetate and the density of the liquid which emits this vapour, A. ii, 360.

Ariès, E., the equation of state of ethyl formate, A., ii, 446.

Arkel, A. E. van. See Hugo Rudolph Kruyt.

Armbrecht, Walther, chitose, A., i, 472.

Armstrong, Edward Frankland, and Thomas Percy Hilditch, conversion of the simple sugars into their enolic and ethylene oxide forms, T., 1410.

catalytic actions at solid surfaces. I. Hydrogenation of unsaturated fats in the liquid state in presence of nickel, A., ii, 403.

Arndt, Fritz, recovery of iodine from its residues, A., ii, 333.

Arthur, John Stanley, and Leonard Gibbs Killby, new compound of lime and bromine and a process for its manufacture, A., ii, 465.

Asado, Jun. See Yuji Shibata.

Asabina, Yasuhiko, and Atsushi Fujita, the reduction of allocinnamic acid and coumarin, A., i, 443.

Asahina, Yasuhiko, and C. Hasegawa, naphtharesorcinolcarboxylic [1:3-dihydroxynaphthalene-2-carboxylic] acid as a reagent for glycuronic acid, A., ii, 528.

Asai, Tōichi, physiological investigation of a new yeast which flourishes in tanning liquors, A., i, 57.

Aschan, Ossian, monohydrochloride of isoprene, A., i, 1.

substitution by halogens in the ali-phatic series, A., i, 306.

new initial materials for the prepara-tion of allyl compounds, A., i,

genetic relationships of the terpenes, A., i, 336.

new terpene in Finnish turpentine. A., i, 336.

Finnish turpentine. v. Formation of terpin hydrate and terpineol, A., i, 336.

Finnish turpentine. VI. The components of high boiling point, A., i, 337.

constituents of higher boiling poin t in Finnish turpentine, A., i, 337.

the sesquiterpene fraction in the volatile portions of pine resin, A., i,

Aschan, Ossian, and K. E. Ekholm, pinabietic acid, a resin acid from the sulphate cellulose liquors, A., i, 326.

Aschan, Ossian, Per Ekwall, and Teräsvuori, products of nitration of pcymene, A., i, 314.

Asche, Adolf. See Robert Behrend. Ashcroft, E. A., some chemically reactive alloys, A., ii, 465.

Ashe, Lauren H. See John H. Northrup.

Ashida, Eitaro. See Motooki Matsui. Aston, Francis William, a simple form

of apparatus for estimating the oxygen content of air from the upper atmosphere, T., 472.

Aston, Francis William. See also F. A. Lindemann.

Astruc, A., and (Mlle.) G. Pichard, gravimetric estimation of glycyrrhizin, A., ii, 86.

Aten, Adriaan Hendrik Willem, passivity of chromium. III., A., ii,

Atkinson, H. V., Graham Lusk, and G. F. Soderstrom, animal calorimetry. XV. Further experiments relative to the cause of the specific dynamic action of protein, A., i, 105.

See Charles Chene-Audubert, René. veau.

Auerbach, Friedrich, electromotive activity of carbon monoxide, A., ii, 212.

Auffenberg, Elisabeth. See Karl von Auwers.

Auger, Victor, the estimation of solutions of hydrochloric acid and of ammonia by weighing ammonium chloride, and the volatilisation of this salt at different temperatures, A., ii, 117.

Aurén, Tycho E:son, absorption of X-

rays, A., ii, 89.

Auwers, Karl von, spectrochemistry of commaranones and of allied bicyclic ketones, A., i, 220.

isomerism among derivatives of indazole, A., i, 455.

relations between the constitution and the physical properties of the hydrocarbons of the benzene series, A., i, 578.

Auwers, Karl von, and Elisabeth Auffenberg, coumaranones and hydrindones, A., i, 217.

Auwers, Karl von, and R. Dereser, alkyl derivatives of indazole-3-carboxylic acid, A., i, 456.

Auwers, Karl von, and Anna Heinze, constitution of aliphatic y-ketonic acids and the aromatic o-aldehydoand o-ketonic-carboxylic acids and their derivatives, A., i, 328.

Auwers, Karl von, and H. Schütte, alkylated coumaranones, especially 1:1:4 trimethylcoumaranone, A., i,

217.

R

Babington, F. W., and Alfred Tingle, estimation of small amounts of benzene in ethyl alcohol, A., ii, 353.

Bachmann, Freda M., vitamine require-

ments of certain yeasts, A., i, 613. Bacon, Nathaniel T., new hypotheses as to different states of matter, A., ii, 506.

Baczyński, Wl., and Stefan von Niementowski, structure of hydroxyquinacridone, A., i, 352.

Badische Anilin- & Soda-Fabrik, hydrogenation and dehydrogenation of carbon compounds with the aid of catalysts, A., ii, 18.

Bado, Atilio A., Victor J. Bernaola, Aurelio F. Mazza, and Leopoldo Dasso, methods of water analysis, A., ii, 118. See Emil Briner. Baerfuss, A.

Bärlocher, Gustav. See Rudolf Friedrich Weinland.

Baggesgaard-Rasmussen, H., the hydrolysis of ethyl sulphite, A., i, 381. Bahlau, Gustav. See Otto Ruff.

Bailly, Octave, action of alkyl iodides on normal sodium phosphate in aqueous solution, A., i, 194.

modified method of estimating arsenic as ammonium magnesium arsenate, A., ii, 426.

Bajda, James J., new reflux condenser, A., ii, 146.

Bakker, Gerrit, thickness of the capillary layer of carbonic acid, A., ii, 12.

Balareff, D., estimation of phosphoric acid as magnesium pyrophosphate, A., ii, 426.

Baldwin, M. E., influence of neutral chlorides on chromium chloride solutions, A., ii, 393.
Baldwin, M. E. See also Henry Clapp

Sherman.

Baljet, H., glucosides with digitalis-like action; a new characteristic reaction, A., ii, 438.

Balke, Clarence William. See Edward Wichers.

Balloul, Ahmed. See Félix Michaud. Bamberger, Eugen, K. Blaskopf, Alex-

ander Landau, and Frederick Tschirner, attempts to prepare &-phenylhydroxyl-

amine o-methyl ether, A., i, 396.

Bamberger, Eugen, and Alexander

Landau, N-phenylhydroxylamine and methyl sulphate, A., i, 395.

Bancroft, George R., preparation and hydrolysis of esters derived from the substituted aliphatic alcohols, A., i, 251.

Bancroft, Wilder Dwight, colour of col-VI. Blue eyes, A., i, 421. irs of colloids. VII. Blue loids.

the colours of colloids.

feathers, A., i, 462

colours of colloids. II., III. and IV. and VIII., A., ii, 102, 187, 275, 500. colours of colloids. V. Metallic and vitreous lustre, A., ii, 324.

Bang, Ivar, micro-estimation of lipoids by titration, A., ii, 85.

the micro-estimation of the lipoids of the blood, A., ii, 85.

Barbé, E. See L. Lapicque.

Barbe, P., existence of isotungstic acid,

A., ii, 234.

Barbieri, Giuseppe A., colour reactions of molybdenum and tungsten. I., A., i, 549.

Barendrecht, Hendrik Pieter, urease and the radiation theory of enzyme action.

I. and II., A., i, 604.

Bargellini, Guido, some cases of solubility influence. I. Compounds of thiosinnamine [allylthiocarbamide] existing in aqueous solution, A., i,

5:6:7-trihydroxyflavone: constitution

of scutellarein, A., i, 545. some cases of solubility influence. II. Compounds of caffeine existing in

aqueous solution, A., i, 549.
Bargellini, Guido, and E. Peratoner, 5:7:2'-trihydroxyflavanol: synthesis of datiscetin, A., i, 547.

Barger, George, and Frank Tutin, carnosine, constitution and synthesis, A., i, 170.

Barker, E. F. See H. M. Randall. Barnes, Edward, benzidine stannichloride, A., i, 416.

Barnes, James Hector, obituary notice of, T., 409.

Barratt, Sydney, and Alan Francis Titley, the catalytic reduction of hydrogen cyanide, T., 902.

Bartlett, H. H. See C. E. Sands.

Bartsch, A., rapid method of estimating sulphide sulphur in pyrites, A., ii, 168.

Batey, John Percy, obituary notice of, T., 408.

Bau, Adolf. See Emil Misslin.

Baudisch, Oskar, theory of colour lakes; action of potassium ferricyanide on alizarin in alkaline solution and the constitution of hydroxyanthraquinones, A., i, 211.

nitrate and nitrite assimilation. XIV. Iron and oxygen as necessary agents for the reduction of alkali nitrites by auto-oxidisable compounds, A., i, 237.

Baudisch, Oskar, nitrate and nitrite assimilation. XV. Iron and oxygen as necessary agents for the reduction of alkali nitrates, A., i, 238.

Baudisch, Oskar. See also Franz Klaus. Baudrexel, August. See Carl Dietrich Harries.

Bauer (Frl.) Constanze. See Otto Fischer. Bauer, Hans, velocity of diffusion, A., ii, 393.

Bauer, O., and O. Vogel, the rusting of iron on contact with other metals and

alloys, A., ii, 108. Baughman, W. F., and W. W. Skinner, estimation of iodide in mineral waters and brines, A., ii, 349.

Baur and Reveillet, estimation of quinine in urine, A., ii, 437.

Baur, Emil, dissociation of salicylic acid, A., ii, 12.

relationship between electrolysis and photolysis and electrolytic nonreversibility, A., ii, 264.

Bauzil. See Bover.

Baxter, Robert Reginald, and Robert George Fargher, 1:3-benzodiazole-arsinic acids and their reduction products, T., 1372.

Bayer, substitute for hydrogen sulphide water, A., ii, 423.

Beal, George Denton, and Ruth E. Okey, a proximate analysis of Rumex crispus, and a comparison of its hydroxymethylanthraquinones with those from certain other drugs, A., i, 374.

Beam, W., and Gilbert Arthur Freak, estimation of small quantities of anti-

mony, A., ii, 352.

Bear, Firman E., and Albert C. Workman, ammonia-fixing capacity of calcium sulphate, A., i, 511.

See W. E. Totting-Beck, A. J. ham.

Beck, Georg. See Israel Lifschitz. Beckenkamp, J., kineto-electro-magnetic theory of crystals, A., ii, 272.

Becker, H., and Augustin Bistrzycki, the products of the addition of benzilic acid to aryl thiocarbimides, A., i, 207.

Becker, H. G. See W. E. Adeney.

Becker, R., theory of detonation, A., ii,

Beegle, Frank M. See John Maurice

Béhal, Auguste, the isolation and characterisation of alcohols as allophanates, A., ii, 301.

Behrend, Robert, constitution of methyloxaluric acid, A., i, 258.
Behrend, Robert, and Adolf Asche, para-

banic acid, A., i, 98.

Behrend, Robert, and Karl Dreyer, oxidation of organic compounds by silver oxide, A., i, 64.

Behrend, Robert, and George Heyer, oxidation of muconic acid; synthesis of mucic acid, A., i, 521.

Behrend, Robert, and Hermann Kölln, glycosine, A., i, 66.

Behrend, Robert, and Hans Odenwald, acetylmethylcarbamide, A., i, 70.

Behrend, Robert, and August Prüsse, tartronic acid, A., i, 65.

Bellucci, Italo, compounds of univalent nickel. II., A., i, 526.

influence of fluorides on the oxidimetric estimation of nitrous acid, A., ii, 476.

Bellucci, Italo, and F. Lucchesi, acidimetric estimations in liquids from aluminium sulphate manufacture, A., ii, 474.

alkalimetric titrations in presence of alumina, A., ii, 474.

Benedict, Stanley Rossiter, estimation of blood sugar by the modified picric acid method, A., ii, 302.

Benedict, Stanley Rossiter. See also Kanematsu Sugiura.

Bennett, George Macdonald, the nitration of diphenylethylenediamine, T., 576. Benoist, Louis, reagent for, and method

of estimating, ozone, A., ii, 198. **Benrath**, Alfred, photochemical reactions of compounds of less common elements,

A., ii, 443. Benvenuti, P., the electrolytic potential of copper in the presence of various electrolytes, A., ii, 386.

alloys of iron and nickel deposited electrolytically, A., ii, 416.

Berckmans, V. S. F. See Andreas Smits.

Berczeller, Ladislaus, the consumption of oxygen and production of carbon dioxide in the blood of dogs. A., i, 53.

negative adsorption, A., ii, 12.

dialysers made from colloidal membranes, A., ii, 13.

the hydrolysis of ethyl acetate, A., ii, 327.

Berg, Ragnar, occurrence of difficultly reducing carbohydrates in urine, A., i, 471.

volumetric method for the estimation of salicylic acid in the presence of salicylaldehyde, A., ii, 203.

Bergdahl, Bernhard. See Otto Ruff.

Bergell, Peter, preparation of bromolecithalbumin and bromolecithin, A., i, 49.

new compounds of glutamic acid, A., i, 262.

Bergmann, Hans, the storage and excretion of arsenic after administration by salvarsan in serum and water, A., i,

Bergmann, Max, and Paul Dangschat, the O-benzoyl derivatives of B-resorcylic and gentisic acids, A., i, 273.

Bergmann, Max. See also Emil Fischer. Berkeley, (the Earl of), Ernald George Justinian Hartley, and C. V. Burton. osmotic pressures derived from vapour pressure measurements: aqueous solutions of cane-sugar and methyl glucoside, A., ii, 271.

Bernaola, Victor See Atilio A. J. Bado.

Bernoulli, August L., and W. Wege, kinetics of reactions with substituted malonic acids, A., ii, 503.

Berthelot, Daniel, and René Trannoy, the absorbent power of dry or moist earth with respect to chlorine gas, A., i, 142.

Besson, Adolphe, A. Ranque, and Ch. Senez, biochemical action of microbes on sugars and alcohols, A., i, 424.

Best, J. W., the sugars of the blood, A.,

Bettinger, estimation of reducing sugars volumetrically by Schindler's modification of Bertrand's method, A., ii,

Bettinger and Delavale, influence of different agents on the saccharifying and fermenting powers of Mucor boulard, A., i, 301.

Bettschart, A., and Augustin Bistrzycki, transformations of some O-esters of arylated or alkylated thiocarbamic acids, A., i, 207.

Beudet, M. See J. Koetschet.

Beutell, Albert, and P. Oberhoffer, automatic mercury pump, with device for collecting the aspirated gases, A., ii, 507.

Beutner, Reinhard, cause of the small electrical conductivity of aqueous salt solutions, A., ii, 263.

behaviour of non-aqueous solutions of salts, A., ii, 498.

Bhandarkar, Divacar S. See Max Trautz.

Bianu, B., the secondary radiation produced by α-rays, A., ii, 383.

Bichowsky, F. Russell von, an unusual sulphur crystal, A., ii, 189.

Biedermann, W., studies in fermenta-tion. III. Pepsin and peptic digestion, A., i, 102. autolysis of starch, A., i, 107.

Bierry, Henri, the protein sugar, A., i, 421.

Bijl, A. J., and N. H. Kolkmeijer, the crystalline structure of grey tin, A., ii, 67.

investigation of the crystal structure of white and grey tin by means of X-rays, A., ii, 108, 161.

Bijvoet, J. M. See Andreas Smits. See Wilhelm Wis-Bilhuber, Ernst A.

licenus. Billeter, Otto C., estimation of minute quantities of arsenic, A., ii, 32.

Biltz, Heinrich, and Anna Gross, preparation of phosphorus trioxide as a

lecture experiment, A., ii, 226.

Biltz, Heinrich, and Myron Heyn, 3methyluric acid, A., i, 292.

α-, ζ-, and δ-methyluric acids, A., i,

Biltz, Heinrich, Myron Heyn, and H. Bulow, hydurilic acid and s-dimethylhydurilic acid, A., i, 458.

Binder, O., estimation of arsenic in ferromolybdenum and other alloys, A., ii, 117.

Binder, O. See also W. Hoepfner.

Bingham, Eugene C., and R. F. Jackson, standard substances for the calibration of viscometers, A., ii, 268.

Binz, Arthur, silver sodium salvarsan. I., A., ii, 440.

Birckenstock. See C. Marie.

Birckner, Victor, the zinc content of some food products, A., i, 420.

acidimetric titration of grain extracts and amino-acids in the presence of alcohol, A., i, 428.

Birge, R. T., and Solomon Farley Acree, quinone phenolate theory of indicators; a spectro-photometric method measuring the concentrations of the quinoidal and lactoidal salts and the equilibrium and affinity constants of the phenolphthaleins and phenolsulphonphthaleins, A., ii, 400.

Bistrzycki, Augustin. See H. Becker, and A. Bettschart.

Bjerrum, Niels, dissociation of strong

electrolytes, A., ii, 9. Blaauw, A. H., the radioactivity of the

mud from Rockanje, A., ii, 42.

Blanc, Gustave, improved preparation of aromatic aldehydes, A., i, 276.

Blaskopf, K. See Eugen Bamberger. Blaylock, F. R. See F. P. Venable.

Blix, Ragnar. See Hans von Euler. Bloch, J. J., reduction of the nitrile group, A., i, 351.

Block, Walter. normal temperature for the standardisation of chemical appar-

atus, etc., A., ii, 421.

Blom, A. V., calculation of temperatures of explosion, A., ii, 277.

Blount, Bertram, and James Harry Sequeira, "Blue John" and other forms of fluorite, T., 705. Blount, Eugenia. See Kaufman George

See Heinrich Wieland. Blümich, E. Blumer, F. See J. V. Dubsky.

Boake, Roberts & Co., Ltd., A., and Thomas Harold Durrans, preparation of sulphuryl chloride, A., ii, 228.

Boake, Roberts & Co., Ltd., A. See also Thomas Harold Durrans.

Boas, Friedrich, the formation of soluble starch in relationship to selective nitrogen metabolism, A., i, 508.

Boas, Friedrich, and Hans Leberle, for mation of acids by moulds and yeast. III., A., i, 508.

Bodansky, Aaron. See James Sumner.

Bodenstein, Max, apparatus for facilitating the manipulation of gases,  $\Lambda$ ., ii, 21.

Bodforss, Sven, some ketone condensa-

tion reactions, A., i, 211.
Böeseken, Jacob, and W. M. Deerns, the mutual influence on the electrolytic conductivity of gallotannic acid and boric acid in connexion with the composition of the tannins, A., i, 412.

Böeseken, Jacob, and Chr. van Loon, determination of the configuration of cis-trans-isomeric substances, A., i, 4.

Boehringer & Söhne, C. F., preparation of hydrogenated alkaloids, A., i,

Boersch, Erich. See Heinrich Wieland. Böttger, H., apparatus [to demonstrate] the decomposition of nitric acid at a red heat, A., ii, 150.

Böttler, Theodor. See Paul Pfeiffer. Bogert, Marston Taylor, and Jacob Ehrlich, synthesis of certain substituted pyrogallol ethers, including a new acetophenetidide derived from the ethyl ether of syringic acid,

A., i, 483. unique case of a liquid that exhibits a minimum solubility in an unstable

region, A., ii, 451.

Bogert, Marston Taylor, and Joseph K. Marcus, synthesis of aminoflavones, of flavone-azo-\beta-naphthol dyes and of other flavone derivatives, A., i, 169.

Bohn, R. T. See George Leslie Kelley. Bokorny, Thomas, capacity of alcohols and acids to sustain the growth of yeasts and other common fungi, A., i, 108.

fixation of formaldehyde by enzymes, A., i, 361.

Bokorny, Thomas, enzymatic power of yeast, A., i, 370.

organic nutrients for green plants, A., i, 376.

Bole, G. A., an apparatus for studying the dissociation of carbonate rocks, A., ii, 320.

Boll, Marcel, evolution of very dilute solutions of tetrachloroplatinic acid in complete darkness and at different temperatures, A., ii, 256.

Bolland, A., microchemical reactions with thiosulphuric acid, A., ii, 524.

Bone, William Arthur, and Reginald J. Sarjant, chemistry of coal. I. Action of pyridine on the coal substance, A., ii, 419.

Bonis, A., estimation of "saccharin" in tablets, A., ii, 174.

Born, M., characteristic ultra-red vibrations of diatomic crystals, A., ii, 127.

the cubic atom model, A., ii, 188. thermochemical application of the grating theory, A., ii, 214.

grating theory, A., ii, 214.

Born, M., and A. Landé, crystal gratings and Bohr's atom model, A., ii, 188, 453.

calculation of the compressibility of regular crystals from the theory of the grating, A., ii, 188.

Borntraeger, Arturo, reactions between potassium sulphate and tartaric acid under various conditions; behaviour of potassium hydrogen sulphate with alcohol, A., i, 522.

Borsche, Walther, constitution of bile acids. II. Dehydrocholanic acid, A., i, 446.

Borsche, Walther, and Rudolf Quast, some derivatives of 6:7-dihydroxyquinoline, A., i, 285.

Borsche, Walther, and Emmy Rosenkranz, constitution of bile acids. I. Cholanic, isocholanic, and ψ-cholanic acids, A., i, 276.

Bose, Aloke, arsenite titrations of permanganate solutions. A., ii. 36.

manganate solutions, A., ii, 36.

Boswell. Maitland Crease, and J. V.

Dickson, the action of sodium hydroxide on carbon monoxide, sodium formate, and sodium oxalate, A., i, 62.

the fusion of sodium hydroxide with several phenols and sulphonic acids, A., i, 72.

the adsorption of arsenious acid by ferric hydroxide, A., ii, 49.

the fusion of sodium hydroxide with some inorganic salts, A., ii, 63.

Bosworth, Alfred W. See Lucius Lincoln van Slyke.

Bottazzi, Filippo, hæmocyanin. I. Reduction of oxyhæmocyanin by physical and biological means, A., i, 360.

Bottiglieri, N. See C. Finzi.

Boudet, Jean. See Paul Nicolardot.

Bougault, J., the acylsemicarbazides and the acylhydroxamides (rectification), A., i, 444.

reaction of iodoantipyrine, A., i, 498. Bougault, J., and Paul Robin, oxidation of benzaldoxime, A., i, 489.

Boulin, Ch., and Louis Jacques Simon, interaction between methyl sulphate and chlorosulphonic acid, A., i, 465.

the action of stannic chloride on methyl sulphate, A., i, 516.

Bourion, F., and A. Sénéchal, the evolution and oxidation of chromic hydroxide in alkaline solution, A., ii, 66.

the evolution and magnetic properties of chromic hydroxide in alkaline solution, A., ii, 104.

solution, A., ii, 104.
Bourquelot, Émile, and Marc Bridel, simultaneous biochemical syntheses of gentiobiose and of the two \$\textit{\beta}\$-glucosides of glycol by emulsin, A., i, 137.

biochemical synthesis, by means of emulsin, of a-naphthylcarbinyl-\$\beta\$-glucoside, A., i, 166.

application of the biochemical method to the study of several species of indigenous orchids; discovery of a new glucoside, loroglossin, A., i, 243.

biochemical synthesis of cellobiose by means of emulsin, A., i, 361.

Bourquelot, Emile, and Henri Herissey, application of the biochemical method to the study of the leaves of Hokea laurina; extraction of a glucoside (arbutin) and of quebrachitol, A., i, 192.

Bousfield, C. Elspeth. See William Robert Bousfield.

Bousfield, William Robert, mixtures of nitrogen peroxide and nitric acid, T., 45.

Bousfield, William Robert, and C. Elspeth Bousfield, specific heat of aqueous solutions with special reference to sodium and potassium chlorides, A., ii, 134.

Boutaric, A., calculation of the relation between the vapour pressure of a solid and that of a supercooled liquid at various temperatures, A., ii, 390.

Boutin, A., and André Sanfourche, reciprocal solubility of mixtures of water, alcohol, and ether, A., ii, 452.

Bouyoucos, George, and M. M. McCool, determining the absolute salt content of soils by means of the freezing-point method. A in 115

method, A., i, 115.

Boyd, David Runciman, and (Miss)

Doris Feltham Thomas, the velocities
of combination of sodium derivatives
of phenols with olefine oxides. II.,
T., 1239.

Boyd, H. T. See G. G. Oberfell.

Boyer, ureometer with a reaction bulb of variable capacity, A., ii, 375.

Boyer, Sylvester. See Theodore William Richards.

Boyer and Bauzil, action of iodine on hypophosphorous acid and phosphorus acid; application to the estimation of hypophosphites and phosphites, A., ii, 77.

Boyle, (Miss) Mary, the conductivities of iodoanilinesulphonic acids, T., 1505.

Bracewell, Russel S., molecular mechanism of colloidal behaviour. III. Chemical nature of the adsorption of acids and alkalis by the protein molecule, A., ii, 500.

Bracewell, Russel S. See also Richard C. Tolman.

Bradford, Samuel Clement, the theory of gels, A., ii, 139.

Braesco, P., precipitated amorphous silica, A., ii, 153.

Bräuer, P., simple method of determining the velocity of sound in gases and vapours and the density of gases, A., ii, 495.

A., ii, 495.

Branch, Gerald Eyre Kirkwood, and H. E. Hudson Branch, effect of sodium on mixtures of malonic and succinic esters, A., i, 6.

Branch, H. E. Hudson. See Gerald Eyre Kirkwood Branch.

Brandt, Leopold, estimation of iron in iron ores by means of permanganate, A., ii, 373, 428.

A., ii, 373, 428.

Bratz, L. T., and Stefan von Niementowski, syntheses of 8:8'-dihydroxy-5:5'-diquinolyl and a case of direct chlorination by means of ferric chloride A., i, 223.

Brauer, Kurt. See Hermann Gross-

Braun, Julius von, Karl Heider, and Wanda Wyczatkowska, bases of the julolidine type, A., i, 40.

Bray, William Crowell Miriam E. Simpson, and Anna A. MacKenzie, volumetric estimation of hydroxylamine, A., ii, 475.

Bredig, Georg, mercury as a contact poison, A., ii, 20.

Bredig, Georg, and R. A. Joyner, catalytic scission of carbon dioxide from keto-carboxylic acids, A., ii, 19.

Bredt, Julius, H. Dussier, F. Goblet, A. C. Heinemann, and Maria Savelsberg, sec.-\(\beta\)-methylcamphor and sec.-\(\beta\)-phenylcamphor, a new series of synthetic camphors, and tert.-naphthylborneol and naphthylcamphene, A., i, 125.

Brehmer, Elisabeth. See Wilhelm Traube.

Breuer, P. K. See Wilhelm Gluud.

Brewster, Joseph F., and Carl Lucas Alsberg, determination of the distribution of nitrogen in certain seeds, A., i, 239.

Bricq, Robert. See Roger Douris.

Bridel, Marc. See Émile Bourquelot. Brieger, Käthe, the optical behaviour of water of crystallisation, A., ii, 37.

Brieger, Walter, and Hans Schimank, explosion, implosion, and bursting, A., ii, 219.

Briggs, Samuel Henry Clifford, chromatocobaltiammines, T., 67. the theory of duplex affinity, T.,

278.

Brightman, Charles L., J. J. Hopfield, M. R. Meacham, and Solomon Farley Acree, the quinone phenolate theory of indicators; spectrophotometric study of the end points and fading of phenolsulphonphthalein indicators, A., ii, 75.

Briner, Emil, formation of ammonia at high temperatures, A., ii, 190.

Briner, Emil, and A. Baerfuss, formation of ammonia by the electric discharge, A., ii, 148.

formation of ammonia by means of an electric arc; influence of diminishing the pressure, A., ii, 338.

Briner, Emil, and Ph. Naville, effect of diminution of pressure on the fixation of nitrogen as nitric oxide by means of the electric arc, A., ii, 464.

Brinkman, R. See Hartog Jakob Hamburger.

Brinton, Paul H. M. P., single deflexion method of weighing, A., ii, 461.

method of weighing, A., ii, 461.
Brinton, Paul H. M. P., and Charles
James, estimation of cerium in the
presence of other rare earths by precipitation as ceric iodate, A., ii, 430.

British Dyes, Ltd. See Robert Robinson. Britton, Edgar C. See William Jay Hale.

Broglie, Maurice de, X-ray spectroscopy; the L-absorption spectrum of radium, A., ii, 207.

the X-ray spectra of the elements, A., ii, 358.

Brooks, Adin P. See Richard C. Tol-

Brooks, Matilda Moldenhauer, comparative studies on respiration. VIII. The respiration of Bacillus subtilis in relation to antagonism, A., i, 611.

Brown, F. E. See William Draper

Harkins.

Brown, O. W., and L. L. Carrick, catalytic preparation of the aminophenols and the phenylenediamines,

A., i, 266. Brown, Wade H. See Walter Abraham Jacobs.

Browning, Philip Embury, and Sewell E. Scott, separation of germanium from arsenic by the distillation of the chloride in the presence of a chromate, A., ii, 36.

Browning, Philip Embury. See also Lyman E. Porter.

Brüninghaus, L., the conditions of excitation of fluorescence, A., ii,

Bruhns, Gustav, estimation of copper and sugar, A., ii, 80.
Brunetti, Rita, the magnetic field and

the high frequency spectrum of the elements, A., ii, 128.

Bruni, Giuseppe, boundaries of exist-ence of the liquid state, A., ii, 135.

Bruni, Giuseppe, and Mario Amadori, existence of polythionic chlorides in solutions of sulphur in sulphur monochloride, A., ii, 281.

Brunner, Erich, influence of different

ammonium salts on the precipitation of magnesium hydroxide, A., ii, 283.

Brunner, Karl, very simple form of electrolytic current interrupter for demonstration purposes, A., ii, 225. lecture experiment [combustion of phospherus], A., ii, 226. Bruyn, Cornelis Adriaan Lobry de.

See Andreas Smits.

Bubanovič, Franz. See Otto von Fürth. Büchner, Ernst Hendrik, the radioactivity of mud from Rockanje, A., ii, 42.

the atom of Bohr in organic chemistry, A., i, 245.

Bülow, Carl, oxidative fission by means of chlorine of organic substances containing the hydrazone and hydr-

azidrazone groups, A., i, 287.
Bülow, Carl, and Richard Engler,
synthesis of new chloroarylhydrazones of oxalomono-ester and -monoamide acid chlorides and of the corresponding nitriles, A., i, 47.

Bülow, Carl, and Richard Engler, syntheses and reactions of new monoaryl-hydrazidine carboxylic esters, A., i. 287.

Bülow, H. See Heinrich Biltz.

Bürki, Friedrich, Neumann-Kopp's law, A., ii, 135.

Bull, Anders, gravitational attraction and uranium-lead, A., ii, 513.

Burd, John S. See G. R. Stewart. Burdick, Charles L., and E. A. Owen, the atomic structure of carborundum determined by X-rays, A., ii, 62.

Burge, W. E., the effect of acctone and of \$\beta\$-hydroxybutyric and acetoacetic acids on the blood catalase, A., i,

Burgess, H. A. See E. F. Mueller. Burke, Oliver D., gas bubbler for gas analysis, A., ii, 30.

Burns, J. Edward, E. C. White, and J. G. Cheetam, experimental nephropathy produced by an organo-mercury compound of phenolsulphonephtha-

lein, A., i, 610.

Burrows, George Joseph, the rate of hydrolysis of methyl acetate by hydro chloric acid in water-acetone mixtures, T., 1230.

Burrows, George Joseph, and Eustace Ebenezer Turner, the constitution of the nitroprussides. I. Conductivity and cryoscopic measurements, T., 1429.

Burrows, George H., and Edwin J. Cohn, quantitative evaporation of blood serum, A., i, 103.

Burt, C. Pauline. See  $\it Emma P.$ 

Carr. C. V.See (the Earl of) Burton, Berkeley.

Burton,  $\tilde{E}$ . F., new method of weighing colloidal particles, A., ii, 323.

Burton, R. Cooksey, hambergite from Kashmir, A., ii, 109.

Buschmann, Ernst, chemical constituents of Bulbus scillæ, A., i, 484.

Buselt, Ernst, carbohydrates of vegetables. V. Carbohydrates of carrots. VI. Carbohydrates of green peas, A., i, 564.

Butler-Brandenfels, R. von. See Georg Schroeter.

C

Cabrera, B., and Santiago Piña de Rubies, magneto-chemistry of chromous and oxychronic salts, A., ii, 492.

Cadwell, Sidney M., and Gladys Leavell, estimation of gold, especially in animal tissues, A., ii, 121.

Cain, John R., and L. G. Maxwell, electrolytic resistance method of estimating carbon in steel, A., ii, 476.

Caldwell, Mary L. See Henry Clapp

Calhoun, Henrietta A. See David Murray Cowie.

Calvert, Jackson. See David Baird Macdonald.

Campbell, Edward DeMille, some mixed crystals of calcium ferrite and aluminate, A., ii, 159.

Campbell, Norman. See Clifford C. Paterson.

Campetti, Adolfo, conductivity and absorption of sodium vapour, A., ii, **2**05.

physical constants of chlorine under the action of light, A., ii, 463.

Canals, E., estimation of calcium and magnesium in different saline solu-

tions, A., ii, 34, 477. Canals, E., and J. Serre, a compound of strontium bromide and sodium benzoate in galenical pharmacy, A., i,

Cappelli, G., thiophenol in synthetic phenol, A., i, 74.

Capps, Julian H. See Guy B. Taylor. Carbonelli, C. Emilio, variation of the vapour pressure with the temperature, A., ii, 316.

See Charles Richet. Cardot, Henry. Carlé, O. See Georg Schroeter. Carnot, P., and Pierre Gérard, mechan-

ism of the toxic action of urease, A., i. 462.

Caron, Hubert, and Désiré Alphonse Raquet, sensitive reaction of manganese salts, A., ii, 351.

specific colour reaction of oxalates, A., ii, 438.

Carpenter, Charles William. Sce Hubert Frank Coward. Carr, Emma P., and C. Pauline Burt,

absorption spectra of some derivatives of cyclopropane, A., ii, 3.

Carrasco, P., spectrum of the chromosphere; an eruptive protuberance of the 6th July, 1917, A., ii, 38.

Carrescia, F., estimation of small quantities of mercury in toxicological

investigations, A., ii, 479. Carrick, L. L. See O. W. Brown. Carter, E. G. See Joseph E. Greaves. Carter, S. Raymond. See Percy Faraday Frankland.

Cartledge, G. H., emanation method of estimating thorium, A., ii, 120.

Cartledge, G. H. See also Herbert

Newby McCoy.
Catalan, M. A., the ultimate rays in the arc spectra of the elements, A., ii,

Catalano, Luciano R., a titaniferous mineral from the Sierra del Pié de Palo, San Juan (Argentine), A., ii,

Cath, P. G., the measurement of very low temperatures. XXIX. Vapour pressures of oxygen and nitrogen for obtaining fixed points on the temperature scale below 0°, A., ii, 218.

Cathcart, P. H. See Lawrence Joseph Henderson.

Cattaneo, U., and L. Maddalena, ferriferous sands in Italy, A., ii,

Cauer, Marianne. See Gerhard Grütt-

Cauwood, J. D., and T. E. Wilson, estimation of boric oxide in glass, A., ii, 169.

Cavazzi, Alfredo, estimation of phosphorus and silicon in cast iron, A., ii, 117.

Caven, Robert Martin. See Edmund Brydges Rudhall Prideaux.

Cerbelaud, analysis of gastric juice, A., ii, 532.

Cervemý, J. See Emil Votoček.

Cesaro, Giuseppe, the rôle of boron in silicates, A., ii, 517.

Challenger, Frederick. See Percy Faraday Frankland.

Chapin, Robert M., arsenious oxide as a standard substance in iodometry, A., ii, 196.

Chapman, David Leonard, and William Job Jenkins, the interaction of acetylene and mercuric chloride, T., 847.

Chapman, David Leonard, and John Reginald Harvey Whiston, the interaction of chlorine and hydrogen; the influence of mass, T., 1264.

Chapman, S., the possibility of separating isotopes, A., ii, 390.

Chatelot, Claude. See Paul Nicolardot. Chatterjee, Nihar Ranjan. See Rasik Lal Datta.

Chatterjee, Sarat Chandra, and Ananda Kisore Das, condensation of 1-phenyl-3-methyl-5-pyrazolone with anhydrides, A., i. 357.

Chaudun, (Mile.) A. See H. Colin. Chauvierre, Marc, a new indicator for

bases and acids, A., ii, 196.

a new periodic classification of the chemical elements, A., ii, 331.

Chavanne, Georges, and Louis Jacques Simon, preparation of some volatile, saturated acyclic or cyclic hydrocarbons contained in light petroleums, A., i, 380.

critical temperatures of solution in aniline of the principal hydrocarbons occurring in light petroleum, A., ii, 267.

use of the critical temperature of solution in aniline in the summary analysis of a petroleum, A., ii, 432.

critical temperatures of solution in aniline of mixtures of hydrocarbons; application to the analysis of petroleum, A., ii, 433.

the composition of some Asiatic petroleums, A., ii, 433.

See also Louis

Chavanne, Georges.

Jacques Simon.
Cheetam, J. G. See J. Edward

Burns.
Chelle, L., detection and estimation
of traces of hydrocyanic acid
in complex mixtures, A., ii,
529.

detection and estimation of traces of thiocyanate in complex mixtures, A., ii, 530.

the transformation of hydrocyanic acid into thiocyanic acid in the course of cadaverous putrefactions; experiments made in vitro, A., ii, 530.

Chemische Fabrik auf Actien (vorm. E. Schering), preparation of 6-hydroxy-2 phenylpyridine-5-carboxylic acid, A., i, 496.

Chemische Fabrik von Friedr. Heyden, preparation of hydantoins, A., i, 351, 417.

Chéneveau, Charles, and René Audubert, absorption by troubled media; application to the estimation of suspensions, A., ii, 205.

Cherbuliez, Emil. See Rudolf Pummerer.

Chesnut, Victor K. See Frederick Belding Power.

Chiarieri, P. See Angelo de Dominicis. Chiavarino, Giuseppina, crystallography of the compound of nickel dichromate and ethylenediamine, NiCr<sub>2</sub>O<sub>7</sub>, 3C<sub>2</sub>H<sub>4</sub>(NH<sub>2</sub>)<sub>2</sub>, A., i, 522.

Chick, Harriette, and E. Margaret Hume, importance of accurate and quantitative measurements in experimental work on nutrition and accessory food factors, A., i, 561.

Chiò, Mario, the coagulation of blood, A., i, 184. Christiansen, C., generation of electricity by atomising liquids (ballo-electricity). IV. and V., A., ii, 385, 386.

Christiansen, J. A., reaction between hydrogen and bromine, A., ii, 508.

Christiansen, J. A. See also Sören Peter Lauritz Sörensen.

Ciamician, Giacomo Luigi, comparisons and similarities; water and ammonia, A., i, 68.

Ciamician, Giacomo Luigi, and Ciro Ravenna, behaviour of organic compounds in plants. X., A., i, 58.

action of vegetable enzymes on certain organic compounds, A., i, 140.

influence of certain organic compounds on the development of plants. III., A., i, 241.

Citron, H., quantitative estimation of sugar; a new apparatus for the estimation of sugar in urine, A., ii, 122

Ciusa, Riccardo, some aromatic βγ-unsaturated ketonic acids, A., i, 402.

Claisen, Ludwig, Otto Eisleb, and F. Kremers, transformation of phenyl allyl ethers into the isomeric allylphenols. II., A., i, 266.

Clarens, J., the estimation of phosphoric acid as ammonium phosphomolybdate, A., ii, 169.

Clark, E. P., the preparation of rhamnose, A., i, 387.

Clark, George L., critical study of the potassium and sodium double salts of lead tetrafluoride as sources of fluorine, A., ii, 513.

Clark, Janet H., photochemical effect of certain fluorescent substances on rennin, A., i, 182.

Clark, John Marshall, solubilities, separation, and purification of anthracene, carbazole, and phenanthrene, A., i, 200.

Clark, W. Blair, volumetric estimation of reducing sugars; a simplification of Scales's method for titrating the reduced copper without removing it from the residual copper solution, A., ii, 83.

Clarke, Hans Thacher. See Charles Edward Kenneth Mees.

Clausen, S. W., method for the estimation of potassium in blood, A., ii, 79.

Clausmann, Paul. See Armand Gautier. Clementi, Antonio, biochemical properties of aminoglucose, A., i, 9.

Clevenger, C. B., preparation of conductivity water, A., ii, 490.

Clewer, Hubert William Bentley. See John Augustus Goodson. Clifford, Charles William, liquid ammonia-sodium method for [estimating] halogens in organic compounds, the formation of cyanide and the method of removing [it] from the solution, A., ii, 423.

Clover, Alphonso Morton, trimethylene disalicylate and method of preparing

the same, A., i, 402.

Cofman, Victor, the active substance in the iodination of phenols, T., 1040.

Cohen, Barnett, and Arthur H. Smith, the colorimetric estimation of hæmoglobin, A., ii, 532.

Cohen, Ernst, and A. L. T. Moesveld, piezo-chemical studies. XV. Experimental proof of Braun's law, A., ii,

Cohen, W. D., the reduction of aromatic ketones, A., i, 124, 210.

Cohn, Edwin J. See George H. Burrows, and Lawrence Joseph Henderson.

Colin, H., utilisation of dextrose and lævulose by higher plants, A., i, 241.

Colin, H., and (Mile.) A. Chaudun, the law of action of sucrase; influence of viscosity on the velocity of hydrolysis, A., ii, 327.

Colin, H., and M. Lebert, action of neutral salts on the inversion of sucrose by acids, A., i, 196.

Colin, H., and O. Liévin, the spontaneous oxidation of organic complexes of cobalt, A., i, 430.

Collatz, Ferdinand A. See R. Adams Dutcher.

Collins, Hawksworth, constitution and structure of an atom of nitrogen, A., ii, 405.

Colson, Albert, theory of solubility, A., ii, 186.

deduction of cryoscopy from the general laws of solubility, A., ii, 265.

eutexis and dilute solutions, A., ii, 274.

Coma y Roca, F. See A. Orékhoff. Compagnie des Produits Chimiques

d'Alais et de la Camargue, prepara-tion of trichloroethylene from tetrachloroethane, A., i, 513. Compton, Arthur H., size and shape of

the electron, A., ii, 504.

Conant, James B., preparation of sodium p-hydroxyphenylarsinate, A., i, 230.

Confectionery Ingredients, Ltd., Francis Edward Matthews, Albert Theodore King, and Thomas Kane, preparation of vanillin, A., i, 592.

Conner, S. D., soil acidity as affected by moisture conditions of the soil, A., i,

115.

Connstein, Wilhelm, and K. Lüdecke, preparation of glycerol by fermentation, A., i, 463.

Coolidge, Albert Sprague. See George Shannon Forbes

Cooper, Evelyn Ashley, and Joseph Alan Heward, albuminoid ammonia test, A., ii, 296.

Copaux, Hippolyte, method of treating beryl for the extraction of glucinum, A., ii, 192.

Copisarow, Maurice, theory of allotropy: allotropes and allotropoids, A., ii,

allotropy of carbon, A, ii, 340.

Coppin, Noël Guilbert Stevenson, and F. Holt, estimation of monochlorobenzene in mixtures containing benzene, monochlorobenzene, and dichlorobenzene, A., ii, 354.

Cornec, Eugène, spectrographic study of the ashes of marine plants, A., i, 192.

Cornec, Eugène, and Georges Urbain, cryoscopic investigation of double salts and complex salts in aqueous

solution, A., ii, 218. cryoscopic study of couples; cadmium iodide-alkali iodide, A., ii, 232.

cryoscopic study of couples; cadmium bromide-alkali bromide, A., ii, 284. cryoscopic study of couples; cadmium chloride-alkali chloride, A., ii, 284.

Cornelius, Martha. SeeSigmund Fränkel.

Corti, Hércules, the thermal springs of Rio Hondo, A., ii, 72. chubutite, a new lead mineral, A., ii, 293.

Corti, Hércules, and Héctor H. Alvárez, the waters of the Atlantic Ocean on the Argentine coasts, A., ii, 61.

Costantino, A., estimation of mercury in mercury salicylate, A., ii, 299.

Cottrell, Frederick Gardner, determination of boiling points of solutions, A., ii, 447.

Coward, Hubert Frank, Charles William Carpenter, and William Payman, the dilution limits of inflammability of gaseous mixtures. III. The lower limits of some mixed inflammable gases with air. IV. The upper limits of some gases, singly and mixed, in air, T., 27.

Coward, Rubert Frank, and Stanley Pierce Wilson, the equilibrium between carbon, hydrogen and methane, T., 1380.

Cowie, David Murray, and Henrietta A. Calhoun, the presence of calcium in the red blood corpuscles, A., i, 297.

Cowie, G. A., decomposition of cyanamide and dicyanodiamide in the soil, A., i, 376.

Cox, Henry Edward, estimation of small quantities of ethyl ether in ethyl alcohol, A., ii, 83.

Craig, Archibald, analysis of alloys of tin, A., ii, 430.

Craig, Thomas J. I., volumetric estimation of sulphurous acid, A., ii, 241. estimation of alkali in permanganate

liquors, A., ii, 245. Craig, W. M. See Theodore William Richards.

Cramer, Marc. See Amé Pictet.

Cramm, E. von. See Hans Thierfelder. Creighton, Henry Jermain Maude, electrolytic conductivity in non-aqueous solutions. III. Relations between the conductivity of the solute and several physical properties of the solvent, A., ii, 182.

Creighton, Henry Jermain Maude, and D. Herbert Way, electrolytic conductivity in non-aqueous solutions. II. Electrical conductivity of p-tolyltrimethylammonium iodide in water and several organic solvents, A., ii, 44.

Crémieu, Victor, and Adolphe Lepape, separation by solidification of pure carbon dioxide from a gaseous mixture, A., ii, 511.

Crespo, Mario. See Ernest Fourneau. Crocker, William, and George T. Harrington, catalase and oxydase content of seeds in relation to their dormancy, age, vitality, and respiration, A., i, 110.

Crommelin, Claude Auguste, the state of super-conductivity in metals, A., ii,  $31\bar{5}$ .

Crookes, (Sir) William, arc spectrum of scandium, A., ii, 310.

Crozier, W.J., Fischer's theory of water absorption in cedema, A., i, 55.

Csányi, Wilhelm, statics and dynamics of the two phthalyl chlorides, A., i,

Wilhelm.See also Csányi, RobertKremann.

Cullen, Glenn E., and Roger S. Hubbard, stabilisation of dilute sodium hypochlorite solutions (Dakin's solution), A., ii, 231.

electrolytic preparation of dilute sodium hypochlorite solutions (Dakin's solution), A., ii, 231.

Cullen, Glenn E. See also Donald D. van Slyke.

Curtman, Louis J., and Ben R. Harris, the test for tartrates depending on the formation of the copper tartrate complex, A., ii, 173.

Curtman, Louis J., and David Hart, systematic procedure for the detection of acids of Group I., A., ii, 425.

Cushny, Arthur Robertson, [physiological action of] optical isomerides. V. The tropeines, A., i, 507.

Cusmano, Guido, keto-cineole, A., i, 212.

halogenated compounds of keto-cineole, A., i, 213.

synthesis of sulphuryl chloride in presence of organic compounds, A., ii, 61.

See Julius Stoklasa. Cwach, J.

Czensny, Rudolf, estimation of free carbon dioxide in water, A., ii, 297.

#### D

Dahm, Henry L., acetylsalicylic [o-

acetoxybenzoic] acid, A., i, 124.

Dains, Frank Burnett, H. W. Greider, and C. H. Kidwell, action of ammonia and amines on the substituted carbamides and urethanes. I. Carbonyldiurethane, A., i, 400.

Dakin, Henry Drysdale, amino-acids, A., i, 150.

Dalmas, D. See Demetrius E. Tsakalotos.

Dalmer, O. See Adolf Windaus.

Dalton, J. See S. Elliott.

Damianovich, Horació, and AdolfoWilliams, study of the stability of some solutions of enzymes and alkaloids by means of ultraviolet absorption spectra; the particular cases of pancreatin and morphine, A., ii, 487.

Damiens, A., the carburation of ceric oxide, A., ii, 156.

Dame, Perry A. See Ernest Jenkins Hoffman.

Dandridge, Arthur Gilbert. See James Morton.

Dandurand, F. See Paul Nicolardot. Dangschat, Paul. See Max Bergmann.

Darapsky, August, hydrazino - acids. III., A., i, 601.

Das, Ananda Kisore, and Brojendra Nath Ghosh, condensation of deoxybenzoin and aldehydes, T., 817.

diketohydrindene. III., A., i, 542. Das, Ananda Kisore. See also Sarat Chandra Chatterjee.

Das, Radha Kishen. See (Sir) Prafulla Chandra Rây.

Daschavsky, Peter G. See Treat Baldwin Johnson.

Dasso, Leopoldo. See Atilio A. Bado.

Datta, Rasik Lal, and Nihar Ranjan Chatterjee, the temperature of explosion for endothermic substances, T., 1006.

halogenation. XVIII. Direct iodination by means of iodine and nitric

acid, A., i, 153.

Datta, Rasik Lal, and Haraparbutty. Kumar Mitter, halogenation. XVII. Action of halogens on the Grignard reagent and replacement of halogen atoms by one another, A., i, 183.

Davenport, Audrey. See Edwin Broun Fred.

Davidson, J. G., formation of aromatic hydrocarbons from natural gas condensates, A., i, 10.

Davies, Ann Catherine. See Frank Horton.

Davis, Arthur L., atomic weight of lead from samarskite, A., ii, 107.

Davis, C. W., the reduction of tungstic oxide, A., ii, 194.

Davis, Lewis, and Harvey M. Merker, pepsin. I. Chemical changes in the purification of pepsin, A., i, 180.

Davis, Tenney L., some factors bearing on 1:6-addition, A., i, 530.

Davis, Tenney L. See also Elmer Peter Kohler.

Davis, Walter S. See Philip Adolph Kober.

Davisson, B. S., scrubber for ammonia distillations, A., ii, 296.

Davisson, B. S., and J. T. Parsons, estimation of total nitrogen, including nitric nitrogen [in soil extracts], A., ii, 242.

Day, Jesse E. See William Lloyd Evans. De, Rajendralal, polar and non-polar

valency, T., 127.

Dean, George, trustworthiness of the balance over long periods of time, T.,

Dearle, Raymond C., emission and absorption in the infra-red spectra of mercury, zinc, and cadmium, A., ii, 126.

Deatrick, E. P., effect of manganese compounds on soils and plants, A., i, 428.

Debye, Peter, molecular electric field in gases, A., ii, 211.

Debye, Peter, and P. Scherrer, atomic structure, A., ii, 20.

Decarrière, Eugène. See Paul Pascal. Deerns, W. M. See Jacob Böeseken.

Dehn, William Maurice. See Charles R. Stark.

Déjardin, G., calculation of the ratio of the principal specific heats of benzene and cyclohexane by Leduc's cyclic method, A., ii, 95.

Déjardin, G., maximum vapour pressures of benzene and cyclohexane at moderate temperatures and calculation of their principal specific heats, A., ii, 317.

Dejussieu, identification and estimation of solanine, A., ii, 532.

Delavale. See Bettinger.

Delezenne, C., zinc, a cellular constituent of the animal organism; its presence and rôle in the venom of serpents, A., i, 187.

Delezenne, C., and H. Morel, catalytic action of serpent venoms on the

nucleic acids, A., i, 138.

Delort, Maurice, and Roche, colorimetric scale for the rapid estimation of the free hydrochloric acid in liquids by means of a solution of brilliant green, A., ii, 471.

Demoussy, Em. See Léon Maquenne. Denham, Henry George, the sub-acetate

and sub-sulphate of lead, T., 109. the preparation of cadmium suboxide,

T., 556.

Henry George. See also Denham, Stewart Byron Watkins.

Denigès, Georges, microchemical identification of stovaine and cocaine, A., ii. 175.

application of the Grimbert-Leclère reaction of apomorphine to alkaloids and adrenaline, A., ii, 251.

microchemical reaction of various bismuth compounds, A., ii, 431.

microchemical identification of lead, A., ii, 523.

Denis, Willey, and Anna S. Minot, creatinuria and acidosis, A., i, 188. the non-protein nitrogenous constitu-

ents of cow's milk, A., i, 462. estimation of the non-protein nitro

genous constituents of milk, A., ii, 251.

estimation of minute amounts of lead in urine, fæces, and tissues, A., ii, 372.

Dennis, Louis Monroe, and J. P. Koller, selenic acid and copper selenate, A., ii,

Dereser, R. See Karl von Auwers.

Desgrez and Labat, detection of carbon monoxide in air, A., ii, 476.

Deslandres, Henri [Alexandre], the constitution of the atom and the properties of band spectra, A., ii, 206, 310, 441, 486.

Dexheimer, Ludwig, continuous process for the estimation of nitrogen by Dumas's method, A., ii, 295.

Dey, Biman Bihari, and Mahendra Nath  $\psi$ -1:8-isonaphthoxazones, Goswami, T., 531.

Dezani, Serafino, genesis of thiocyanic acid in animals. V. and VI., A., i. 138, 423.

genesis of thiocyanic acid in animals. From what substances is normal thiocyanic acid derived in animals ? A., i, 506.

Dhar, Nilratan, temperature-coefficient of catalysed and non-catalysed re-

actions, A., ii, 224. catalysis. VI. Temperature-coefficients of heterogeneous reactions, A., ii, 404. Dick, Charles William, obituary notice of, T., 408.

Dickson, J. V. See Maitland Crease Boswell.

Dieckmann, Walter, and Albin Hardt, fission of acid salts in aqueous solution into normal salts and free acids, A., ii, 326.

Diehl, Rudolf. See Hans Salomon.

Diels, Otto, and Carry Salomon, dihydroxydihydroglyoxalines and their conversion into glyoxalines. II., A., i, 226.

Dienert, F., and F. Wandenbulcke, action of sodium thiosulphate on the hypochlorites, A., ii, 336.

Dienes, Ludwig, estimation of very small amounts of calcium, magnesium, and phosphorus in animal substances, A., ii, 427.

Diepolder, Emil, microelementary analy-

sis, A., ii, 350.

Diergart, Paul, the Hollandus Writings: a forgery in the second half of the sixteenth century, A., ii, 280.

Diesselhorst, G. See F. Reiss, and Georg Schroeter.

Dieterich, Karl, the "dracorubin" and "dracorubin capillary" tests for identifying and differentiating colourless liquids, A., ii, 202.

Dilthey, Walther, pyrylium compounds. IV. Hydroxypyronium salts, their pseudo- and anhydro-bases, A., i, 413.

Dimitrow, P. See Z. Karaoglanow. Dittler, Emil, use of colloidal silica in

iron titrations, A., ii, 299.

Doane, F. B. See David Shepard Pratt. Dobbie, (Sir) James Johnston and John Jacob Fox, constitution of sulphur vapour, A., ii, 334.

**Dobbin**, Leonard, manganous tartrate and potassium manganous tartrate, A., i, 385.

presence of formic acid in the stinging hairs of the nettle, A., i, 614.

Dodge, Francis D., constituents of oil of cassia. II., A., i, 83.

**Dodge**, Francis D., the isomeric lactones, caryophyllin and urson, A., i, 91.

Dolgow, Boris. See Heinrich Wieland. Dominicis, Angelo de, and P. Chiarieri, connection between absorption and coagulation and its relation to the inorganic colloids of the soil. A., i, 142.

Dominikiewicz,  $M_{\bullet}$ , classification of organic colouring matters, A., i, 86.

Donegan, Joseph Francis. See Thomas Hugh Milroy.

Donleavy, John J. See Donald D. van Slyke.

Donnan, Frederick George, and William Edward Garner, equilibria across a copper ferrocyanide and an amyl alcohol membrane, T., 1313.

Dorfmüller, Gustav. See Siegfried J. Thannhauser.

Dorrance, R. L. See Frank T. Shutt. Dott, David Brown, opium analysis, A., ii, 123.

Dott, Hans. See Hans Meerwein.
Dougherty, R. H. See Richard C. Tolman.

Doughty, Howard Waters, the action of cuprous chloride with compounds containing the trichloromethyl group, A., i, 513. Dorn, W. S

See Georg Schroeter.

Douris, Roger, and Robert Bricg, Vernes' method (sero-diagnosis of syphilis), A., ii, 176.

Douris, Roger. See also Arthur Vernes. Dow, H. H., preparation of phenol, A., i, 264.

Dow Chemical Company, The, preparation of benzaldehyde, A., i, 209.

Dowell, C. T., the action of chlorine on hydrazine, hydroxylamine, and carbamide, A., i, 152.

Dowell, C. T. See also W. G. Friede-

Doyle, G. R., method of analysis of fluorspar and of basic slags containing

fluorine, A., ii, 349.

Dressel, Oskar. See B. Heymann.

Dreyer, Karl. See Robert Behrend.

Druce, John Gerald Frederick, preparation of organic stanno- and stannichlorides. III. Compounds of the amino-acids, A., i, 485.

estimation of nitro-groups in organic compounds by means of stannous

chloride, A., ii, 199.

Drumm, James J. See Hugh Ryan.

Drummond, Jack Cecil, the fat-soluble accessory substance. I. Its nature

and properties, A., i, 362. the fat-soluble accessory factor. II.

Its rôle in nutrition and influence on fat metabolism, A., i, 363.

Drummond, Jack Cecil, rôle of the antiscorbutic factor in nutrition, A., i,

Duane, William, and T. Shimizu, relation between general X-radiation and the atomic number of the target, A., ii,

Dubois, Raphael, formation of glycogen and sugar at the expense of fats, A., i, 362.

bioluminescence, A., i, 364.

Dubrisay, René, Tripier, and Toquet, the miscibility of phenol alkaline solutions, A., i, 73.

a physico-chemical method of estimating alkali carbonates in the presence of alkali hydroxides; application to the analysis of flue gases, A., ii, 78.

Dubsky, J. V., micro-elementary analysis of organic substances, A., ii, 169. valency isomerism, A., ii, 408.

Dubsky, J. V., and F. Blumer, diketopiperazines. VII. Action of oxalyl chloride on alkyloxamides, A., i, 288.

diketopiperazines. VIII. Action of absolute nitric acid on 3:5-diketo-1benzenesulphonylpiperazine, A., i,

diketopiperazines. IX. Action of absolute nitric acid on 3:5-diketo-1ethylpiperazine, A., i, 289.

Dubsky, J. V., Ch. Gränacher, S. Izdebska-Domanska, W. D. van Lier-Wensink, and M. Spritzmann, diketo-

piperazines. X., A., i, 289. Ducloux, Enrique Herrero, graphic representation of the chemical composi-

tion of natural waters, A., ii, 519. Dudley, Harold Ward, and Herbert Ernest Woodman, proteins of cow's colostrum. I. The relation between the euglobulin and  $\psi$ -globulin of cow's colostrum, A., i, 178.

**Duffour**, Alexis, the double magnesium potassium chromate hexahydrate, A., ii, 367.

Dufilho, E., tincture of muscari as an indicator, A., ii, 518.
Dufraisse, Charles. See Charles Moureu.

Dufton, Samuel Felix, limits of separation by fractional distillation; a new still-head, A., ii, 136.

Duin, C. F. van, the mobility of the methylnitroamino-group in the derivatives of tetranitrophenylmethylnitroamine and in trinitrodi(methylnitroamino)benzene, A., i, 121.

Duparc, Louis, new method of analysis of platinum ores and compositions of native platinums from the Urals, A., ii, 469.

Duret, Paul, new preparation of a very dissociable calomel, A., ii, 232.

Durrans, Thomas Harold, the relationship between odour and chemical constitution, A., i, 364.

Durrans, Thomas Harold, and A. Boake, Roberts & Co., Ltd., preparation of anhydrides and chlorides of organic acids, A., i, 521.

Durrans, Thomas Harold. See also A. Boake, Roberts & Co., Ltd.

Durrant, Reginald Graham, the interaction of stannous and arsenious chlorides, T., 134.

Dussier, H. See Julius Bredt.

Dutcher, R. Adams, vitamine studies. IV. Antineuritic properties of certain physiological stimulants, A., i, 507.

Dutcher, R. Adams, and Ferdinand A. Collatz, vitamine studies. II. Does water-soluble vitamine function as a catalase activator? A., i, 106. Dutcher, R. Adams, and L. V. France,

vitamine studies. III. Curative properties of honey, nectar, and maizepollen in avian polyneuritis, A., i, 106.

#### E.

Eakle, Arthur Starr, minerals in the crystalline limestone of Crestmore, California, A., ii, 113.

Early, Reginald George, and Thomas Martin Lowry, the properties of ammonium nitrate. I. The freezing point and transition-temperatures, T., 1387.

Eckert, Alfred, and Rudolf Tomaschek, mesonaphthadianthrones, A., i, 163.

Eckstein, H. C., and Harry Sands Grindley, reduction of the quantity of humin nitrogen formed in the hydrolysis of the nitrogenous constituents of feeding-stuffs, A., ii, 204.

Eder, Josef Maria, the arc spectrum of dysprosium, A., ii, 381.

Edie, Edward Stafford, the effect of alcohol on the digestion of fibrin and caseinogen by trypsin, A., i, 460.

Edlbacher, Siegfried, a colour reaction of the proteins, A., ii, 438. Edmondson, J. S. See George Sisson.

Edwards, Fred. G., mechanical philosophy and surface tension, A., ii, 278.

Edwards, W. F., estimation of metallic zinc content of zinc dust, A., ii, 478.

Egerer, Grete, and F. Ford, picramic acid as a standard in colorimetric estimation of nitrogen by Nessler's method, A., ii, 370.

Eggert, John, and Lotte Zipfel, cyanometric method of estimating silver and halogens in ammoniacal solutions, A., ii, 351.

Egloff, Gustav. See William Malisoff. Ehrenfest, P., the position of the electron orbits in the atom and the periodic system of the elements, A., ii, 405.

Ehrlich, Alfred. See Rudolf Wegscheider.

Ehrlich, Felix, fumaric acid fermenta-tion of sugar, A., i, 239.

Ehrlich, Jacob. See Marston Taylor Bogert.

Eichel, (Frl.) Annaliese. See Kurt Hess.

Eichwald, Egon. See Emil Abderhalden.

**Einbeck**, Hans, quantitative studies on the succinic oxidone of Battelli and Stern, A., i, 467.

Einecke, Albert. See Otto Lemmermann.

Eisleb, Otto. See Ludwig Claisen.

Ekholm, K. E. See Ossian Aschan. Ekl, Elisabeth. See Alfons Klemenc.

Ekwall, Per. See Ossian Aschan. Elias, H., and E. Schubert, the part

played by acid in carbohydrate metabolism. III. Acid and the glycogen of the muscles, A., i, 54.

Elliott, S., and J. Dalton, estimation of small quantities of acetone, alcohol, and benzene in air, A., ii, 251.

Elworthy, R. T., examination of the hot springs at Banff, Alberta, A., ii,

Elworthy, R. T. See also John Satterly. Emberg, F. See Hans von Euler.

Emich, Friedrich, a microchemical reaction for gold, silver, and rubidium (cæsium), A., ii, 171.

Emmert, Bruno, constitution of the dialkyltetrahydrodipyridyls, A., i, 455.

Emmett, A. D., and G. O. Luros, is lactalbumin a complete protein for growth? A., i, 363. the stability of lactalbumin towards

heat, A., i, 420. Endell, Kurd. See Andreas Smits. Engelbrecht, H. F. See Elmer Peter

Kohler. Engfeldt, N. O., influence of acetone on

Bang's method of 1914 for the estimation of sugar, A., ii, 434. Engler, Richard. See Carl Bülow.

English, FrankAlbert. See Fritz Mayer.

Engstrand, O. J. See J. F. McClendon. Ennos, F. R. See John Jacob Fox. Enslow, Linn H. See Abel Wolman.

Ephraim, Fritz, the nature of subsidiary valencies. XXIII. Thermal degradation of the ammines of zinc, A., ii, 284.

the nature of subsidiary valencies. XX. Ammines of cuprous and lith-

ium salts, A., ii, 286.

the nature of subsidiary valencies. XXII. Thermal degradation of ammines of copper, A., ii, 287.

the nature of subsidiary valencies. XXI. Gold compounds; ammines of double salts; thermal decomposition of double haloids, A., ii, 291.

chemical affinity, A., ii, 325.
Ephraim, Fritz, and Eduard Michel, regularities in the magnitudes of

molecular volumes, A., ii, 268. Ernst, Ilse. See Daniel Vorländer.

See Paul Pascal.

Escaich, application of pyramidone in analysis, A., ii, 439.

Eschbaum, Friedrich, the guttameter and its application to the study of

drugs and poisons, A., i, 139. Euler, Hans von, and Ragnar Blix, increase of the action of catalase in yeast cells, A., i, 425.

Euler, Hans von, and F. Emberg, the sensitiveness of living yeast to H and OH' concentration, A., i, 302.

Euler, Hans von, and S. Heintze, rôle of the phosphate in alcoholic fermentation, A., i, 58.

Euler, Hans von, and Ingvar Laurin, the augmentation of the catalase activity of yeasts, A., i, 614. Euler, Hans von, and Olof Svanberg,

degradation of sugars by enzymes, A., i, 471.

the content and the formation of invertase in yeast, A., i, 614. Euler, Hans von, Olof Svanberg, and

S. Heintze, quantitative estimations of the enzymic activity of living cells. I., A., i, 108. Evans, Frederick Page.

See Gilbert Thomas Morgan.

Evans, William Lloyd, and Homer Adkins, the oxidation of organic compounds with alkaline potassium permanganate. I. The oxidation of acetaldehyde. II. The oxidation of ethylene glycol, glycollaldehyde, glyoxal, glycollic acid, and glyoxylic acid, A., i, 572. vans, William Lloyd, and Jesse E.

Evans, William Lloyd, and Jesse E. Day, the oxidation of ethyl alcohol by means of potassium permanganate, A., i, 514.

Evens, Eric Doddrell.See Gilbert Thomas Morgan.

Everest, Arthur Ernest, [in part with Harold Rogerson], the preparation of

diacetonamine, T., 588. Evvard, John M. See Alvin R. Lamb. Ewing, Clare Olin. See E. C. Merrill.

#### F.

Fabaron, P., cerium nitride, A., ii, 288. Faerber, Eduard. See Hans Stobbe. Gunnar.See Hartwig Faerden, Franzen,

See Gustave Vavon. Faillebin.

Fajans, Kasimir, F. Richter, and (Frl.) J. Rauchenberger, thorium-lead, A.,

Falck, A., sulphonal, A., ii, 527.

Fales, Harold A., and Gertrude M. Ware, conditions affecting the precise estimation of zinc as the sulphide, A., ii, 246.

Falk, Kaufman George, chemical study of enzyme action, A., i, 102.

Falk, Kaufman George, Grace McGuire, and Eugenia Blount, studies on enzyme action. XVII. The oxydase, peroxydase, catalase, and amylase of fresh and dehydrated vegetables, A., i, 426.

Fall, Paul H. See Harry N. Holmes. Farbenfabriken vorm. Friedrich Bayer & Co., preparation of 4-sulphoaminobenzene-2-carboxylic [6-amino-msulphobenzoic] acid, A., i, 15. preparation of acetic acid from acetyl-

ene, A., i, 147.

preparation of monoazo-dyes, A., i, 358.

Farbwerke vorm. Meister, Lucius, & Brüning, preparation of ethyl acetate from acetaldehyde, A., i, 4. preparation of  $\beta$ -anthrimides, A., i,

preparation of nitrogenous condensation products of the anthraquinone

series, A., i, 498.

Fargher, Robert George, substituted phenylarsinic acids and their reduction products, and the estimation of

arsenic in such compounds, T., 982. Fargher, Robert George, and Frank Lee Pyman, nitro-, arylazo-, and amino-

glyoxalines, T., 217. the abnormal behaviour of glyoxalinecarboxylic esters and anilides towards diazonium salts, T., 1015.

Fargher, Robert George. See also Robert Reginald Baxter.

Faul, M. See Alfred Heiduschka.

Faust, Otto, laboratory condensers for use in reflux condensation and distillation apparatus, A., ii, 332.

Faust, Otto, use of refraction in analysis, A., ii, 433.

Fawsitt, Charles Edward, the freezing point of solutions, with special reference to solutions containing several solutes, T., 790.

the use of freezing-point determinations in quantitative analysis, T.,

Fazi, Remo de, syntheses of naphthyllactic and naphthylcinnamic acids. I. β-Phenyl-β-a-naphthyl-lactic acid and B-a-naphthyleinnamic acid, A., i, 529.

Fehrle, Karl, connexion between the atomic weights, densities, and heats of reaction of the elements. II., A., ii, 391.

Feigl, Johann, the presence of phosphates in human blood-serum. VII., A., i, 138.

non-protein nitrogen of human blood, A., i, 362.

the presence of phosphates in human VIII. The partition blood-serum. of phosphorus, with especial reference to the phosphorus in combination with proteins, A., i, 419.

the presence of phosphate in human IX. A study of blood - serum. methods and the distribution of phosphorus in normal erythrocytes, A., i, 419.

Felsing, William A. See Frederick G. Keyes.

Fenger, Frederic, and Mary Hull, relationship of the pancreatic enzymes,

A., i, 461. Fenn, W. O. See Lawrence Joseph Henderson.

Fenner, Clarence N., relations between tridymite and cristobalite, A., ii, 420.

Ferguson, John B., equilibrium between carbon monoxide, carbon dioxide, sulphur dioxide, and free sulphur,

A., ii, 15. thermal dissociation of sulphur dioxide, A., ii, 99.

Ferguson, John B., and Herbert Eugene Merwin, the ternary system: CaO-MgO-SiO<sub>2</sub>, A., ii, 401. wollastonite (CaO,SiO<sub>2</sub>) and related

solid solutions in the ternary system: lime-magnesia-silica, A., ii, 459.

Fernandez, Amancio. See Luciano P. J. Palet.

Fernández-Espina, Emilio, electroanalysis of nickel without platinum electrodes, A., ii, 526.

Ferrer, Jaime, xanthates of quaternary ammonium, sulphine, and analogous bases, A., i, 258.

Ferry, Edna L. See Thomas Burr Osborne.

Féry, Ch., the chemical process of the lead accumulator, A., ii, 263.

Feulgen, R., pyrrole reaction of the true nucleic acids, A., i, 179. an optically inactive sodium nucleate, A., i, 360.

guanylic acid, its preparation and precipitability, A., i, 603.

Feyer, Joseph, electrolytic preparation of chloroform, A., i, 305.

Fichter, [Carl] Fritz [Rudolf], two lecture experiments, A., ii, 22.

Fichter, Fritz, and Franz Ackermann, electrochemical oxidation of phenols and cresols, A., i, 586.

Fichter, Fritz, and Antonio Rius y Mirò, electrochemical preparation of salts of perphosphoric acid and of monoperphosphoric acid, A., ii, 150.

Fichter, Fritz, Heinrich Steiger, and Theophil Stanisch, formation of carbamide from ammonium carbonate and related substances, A., i, 69,

Fielding, William R., critical phenomena, A., ii, 45.

 $\it Eduardo,$ methods for the Filippi, quantitative estimation of hippuric acid; new, simple, and accurate method, A., ii, 355.

Finks, A. J. See Carl Oscar Johns.

Finzi, C., and N. Bottiglieri, nitro-2:4phenylenedithioglycollic acid and some of its coloured derivatives, A., i, 75.

Fischer, Emil, glycollonitrile-d-glucoside, C<sub>5</sub>H<sub>11</sub>O<sub>5</sub> O CH<sub>2</sub> CN, A., i, 256. syntheses of depsides, lichen sub-stances, and tannins. II., A., i, 278.

Fischer, Emil, and Gerda Anger, syntheses of linamarin and glycollonitrile celloside, A., i, 256.

Fischer, Emil, and Max Bergmann, tannin and the synthesis of similar substances. V., A., i, 87.

structure of \$\beta\$-glucosidogallic acid, A.,

Fischer, Emil, Max Bergmann, and (Frl.) Hertha von Pelchrzim, tannin and the synthesis of similar substances. VI., A., i, 278.

Fischer, Emil, and A. Refik Kadisadé, application of acetylated phenolcarboxylic acids to the synthesis of depsides, A., i, 206.

Fischer, Franz, preparation of thickening material for lubricating oils from

naphthalene, A., i, 392. Fischer, Franz, and Wilhelm Gluud, new practical method of carbonising coal at low temperatures, A., i, 377. light petroleum from coal, A., i, 379.

Fischer, Franz, Siegfried Hilpert, and Wilhelm Schneider, preparation of liquid hydrocarbons by the action of aluminium chloride on naphthalene under pressure, A., i, 391.

Fischer, Franz, and Hermann Nigge-

mann, conversion of naphthalene into liquid products by hydrogenation in pressure furnaces in the presence of non-metallic catalysts, A., i, 393.

Fischer, Franz, and Wilhelm Schneider, conversion of naphthalene into liquid products by alkylation, A., i, 393.

Fischer, Hans, Pregl's micro-estimation

of nitrogen, A., ii, 32. Fischer, Otto, (Frl.) Constanze Bauer, (Frl.) Paula Merkel, R. Müller, and Günther Scheibe, quinocyanines (pinacyanoles, dicyanines), A., i, 172.

Fisher, Ernest Arthur, the vegetable proteases. I. Introductory, A., i, 464.

Fisher, Harry L., stopcock for dropping liquids arranged for equalising the pressure above and below the outlet in the stopcock, A., ii, 60.

Fisher, Harry L., and A. H. Wright, rapid organic combustions of substances containing nitrogen, A., ii, 118.

Fitz, Reginald. See Donald D. van Slyke. Fleischauer, Cl. See Hans Meerwein.

Flink, Gust., new Swedish minerals, A., ii, 112. **Flohr**, A. L., the influence of saponin

on the action of lipases, A., i, 229. Fodor, Andor. See Emil Abderhalden.

Foerster, G. See Richard Stoermer. Fogg, H. C., and Charles James, extraction of gallium and germanium from zinc oxide, A., ii, 344.

Folin, Otto, estimation of ammonia in blood, A., ii, 475.

Folin, Otto, and Eugene C. Peck, a revision of the copper phosphate method for the titration of sugar, A., ii, 354.

Folin, Otto, and L. E. Wright, a simplified macro-Kjeldahl method for urine, A., ii, 371.

Folin, Otto, and Hsien Wu, a system of blood analysis, A., ii, 308.

a revised colorimetric method for the estimation of uric acid in urine, A., ii, 438.

Folin, Otto, and Guy E. Youngburg, estimation of urea in urine by direct nesslerisation, A., ii, 304.

Fonzes-Diacon, H., the stability of javel extracts, A., ii, 231.

Foote, Harry Ward, literature on the solubility of systems relating to nitre cake, A., ii, 24.

equilibrium in the system: Na2SO4- $CuSO_4-H_2SO_4-H_2O$ , A., ii, 361.

Foote, Paul D., and Fred L. Mohler, ionisation and resonance potential for electrons in vapours of magnesium

and thallium, A., ii, 42.
Forbes, George Shannon, and Albert Sprague Coolidge, relations between distribution ratio, temperature, and concentration in system : water, ethyl ether, succinic acid, A., ii, 141.

Forcrand, Robert de, and Félix Taboury, the sulphones formed by the iodides of sodium, rubidium, and cæsium, A., ii, 341.

the stability of the sulphones formed by the iodides of sodium, rubidium, and cæsium, A., ii, 366. Ford, F. See Grete Egerer.

Fornasir, V. See Leopold Ruzicka.

Forster, Martin Onslow, and Hans Spinner, studies in the camphane XXXVII. Aryl derivatives of imino- and amino-camphor, T., 889.

Fosse, Robert, formation, by oxidation, of organic substances, of an intermediate substance spontaneously producing carbamide, A., i, 152. simultaneous oxidation of blood and

of dextrose, A., i, 297.

the mechanism of the artificial formation of carbamide by oxidation, and the synthesis of the natural principals in plants, A., i, 313.

formation of cyanic acid by oxidation of organic substances; its identification based on quantitative analysis, A., i, 459.

Foster, (Miss) A. W., periodic precipitation, A., ii, 322.

Foster, George Carey, obituary notice of, T., 412.

Foster, (Miss) M. G., and C. W. Hooper, the metabolism of bile acids. I. A quantitative method for analysis of bile acids in dog's bile, A., ii, 376.

Fourneau, Ernest, and Mario Crespo, alcoholysis of balsams, A., i, 448.

Fourneau, Ernest, and (Mme.) Pauline Ramart-Lucas, αγ-amino-alcohols with secondary alcohol function, A., i, 435.

Fowler, Alfred, and C. C. L. Gregory, ultraviolet band of ammonia and its occurrence in the solar spectrum, A., ii**,** 253.

Fox, Francis William. See John Addyman Gardner.

Fox, John Jacob, E. W. Skelton, and F. R. Ennos, analysis of aluminium alloys and metallic aluminium, A., ii,

Fox, John Jacob. See also (Sir) James Johnston Dobbie.

Fränkel, Sigmund, and Martha Cornelius, \$\beta\$-aminoethyl alcohol and its derivatives, A., i, 66.
France, L. V. See R. Adams Dutcher.

Franck, J., and Gustav Hertz, the verification of Bohr's atomic theory of optical spectra by investigations of the non-elastic collisions of slow electrons with gas molecules, A., ii, 206.

François, Maurice, estimation of metals by electrolytic deposition without using an external supply of electricity, A., ii, 34.

Frank, Philipp, velocity of diffusion, A., ii, 100.

Frankfurter, Fritz. See Rudolf Pummerer.

Frankland, Percy Faraday, S. Raymond Carter, and (Miss) Dorothy Webster, chlorination of benzene; analysis of mixtures of benzene, chlorobenzene, and dichlorobenzene, etc., A., ii, 353.

Frankland, Percy Faraday, Frederick Challenger, and Noel Albert Nicholls. the preparation of monomethylamine from chloropicrin, T., 159.

the preparation of monomethylaniline, T., 198.

Frankland, Percy Faraday, and Frederic Horace Garner, the rotation-dispersion of butyl, heptyl, and octyl tartrates, T., 636.

Franklin, Edward C., potassium ampotassium ammonomonosodiate, lithiate, rubidium ammonosodiate, and ammonolithiate, A., ii, 191.

Franzen, Hartwig, influence of substituents of reactions. III. Influence of substituents on the colour of benzene picrate, A., ii, 4.

Franzen, Hartwig, Arvid Onsager, and Gunnar Faerden, influence of sub-II. Rate of stituents on reactions. reduction of polymethylphenylhydrazines, A., i, 46.

Freak, Gilbert Arthur, the effect of dilution in electro-titrimetric analyses, T., 55.

Freak, Gilbert Arthur, See also W. Beam.

Fred, Edwin Brown, W. H. Peterson, and Audrey Davenport, acid fermentation of xylose, A., i, 612.

Frederick, Robert C., method for the estimation of nitrates in water by means of the phenolsulphonic acid reaction, A., ii, 371.

Fresenius, C. See Georg Schroeter.

Fresenius, Ludwig. See Otto Lemmermann.

Freudenberg, Karl, alkaloids of the betel nut, A., i, 93. tannins. I. Hamameli-tannin, A., i,

tannins. II. Chebulic acid, A., i, 412. Freund, Erich, action of carbon disulphide on nitromethane, A., i, 309.

Freund, Martin, and Elisabeth Kessler,  $\mathbf{of}$ organomagnesium compounds on quinoline methiodide; stereochemistry of compounds of nitrogen, A., i, 283.

Freund, Martin, and Edmund Speyer, oxydihydrocodeinone hydrochloride

[eukodal], A., i, 345.
Freundlich, Herbert, theory of the velocity of coagulation, A., ii, 52.

Friedemann, W. G., and C. T. Dowell, presence of acetylmethylcarbinol in saccharine sorghum silage, A., i, 244.

Friedenthal, Hans, absolute and relative disinfecting power of elements and chemical compounds, A., i, 366.

Friedlander, Frank V., tetramethylammonium azide, A., i, 65.

Friedrichs, Fritz, gas washing and absorption apparatus. A., ii, 462.

Friedrichs, J., efficiency of potash absorption apparatus and comparative trials with a new form of helical apparatus, A., ii, 297.

Friedrichs, Oscar von, optical activity and quantitative estimation of menthol dissolved in eugenol and phenol, A.,

ii, 301.

Fritsch, R., is selenium present in the vegetable and animal organism? A., i,

Frivold, O. E., diamagnetism in weak [magnetic] fields. A., ii, 94.

Froboese, Victor, precipitation filtration of barium sulphate in water analysis, A., ii, 370.

Fryer, C. Henry. See Percival J. Fryer. Fryer, Percival J., and C. Henry Fryer, examination of commercial samples of nicotine, A., ii, 530.

Fuchs, Paul, thallium-tin alloys, A., ii,

Fürth, Otto von, the diazo-reaction of normal human urine and the influence of the mode of nutrition on the "diazo value," A., i, 608.

Fürth, Otto von, and Franz Bubanovič, the diffusion of electrolytes into jellies. I. The relationship between the distance of diffusion and the concentra-

tion, A., ii, 13. Fujita, Atsushi. See Yasuhiko Asahina. Fukagawa, Kurazo. See Yuji Shibata. Fuller, D. S. See D. S. Ainslie, and John Cunningham McLennan.

G.

Gabriel, Siegmund, some quinoline derivatives, A., i, 38.

Gabriel, Siegmund, and Bruno Löwenberg, action of acylamino-acid chlorides on sodiomalonic esters. V., A.,

Gabriel, Siegmund, and Arthur Thieme, 3-nitro-o-toluic acid, A., i, 398.

Gadamer, Johannes [Georg], wax of a South Brazilian wild bee, A., i, 466.

Gad-Andersen, K. L., concentration of ammonia in blood; comparison with concentration of ammonia in different secretions and tissues, especially muscle tissue, A., i, 561.

Gainey, P. L., effect of carbon disulphide and toluene on nitrogen fixing and nitrifying organisms, A., i, 189.

parallel formation of carbon dioxide, ammonia, and nitrate in soil, A., i, 509.

Gaiter, Augusto. See Guido Pellizzari. Ganassini, Domenico, Schiff's reaction for the detection of carbamide, A., ii,

Gardiner, R. F., solubility of the calcium, magnesium, and potassium in such minerals as epidote, chrysolite, and muscovite, especially in regard to soil relationships, A., i, 375.

Gardner, John Addyman, and Francis William Fox, chloropicrin. 1188.

Garner, Frederic Horace. See Percy Faraday Frankland.

Garner, William Edward, the nature of the ethylenic and acetylenic linkings in carbon compounds, A., i, 377.

Garner, William Edward. See also Frederick George Donnan.

Garnier, M. See Paul Pascal.

Garrison, Allen. See Harry B. Weiser. Garvin. See A. Portevin.

Gaubert, Paul, the liquid crystals of agaricie acid, A., i, 119.

the artificial coloration of liquid crystals, A., ii, 52.

optical properties of magnesium platinocyanide, A., ii, 309.

Gaudion, Georges. See Paul Sabatier. Gautier, Armand, and Paul Clausmann, influence of fluorides on vegetation. A. Preliminary experiments in flower

pots, A., i, 371.
action of fluorides on vegetation. Field trials, A., i, 512.

Geigy, J. R., preparation of isatin and its substitution derivatives and intermediate products, A., i, 599.

Geppert, J., reasons for the movements of camphor [on water] and allied phenomena, A., ii, 184.

Gérard, Fierre. See P. Carnot. Gericke, W. F. See Charles Bernard Lipman.

Gerke, Roscoe H. See Richard C. Tolman, and P. V. Wells.

Gesellschaft für Chemische Industrie in Basel. See Society of Chemical Industry in Basle.

Gettler, A. O., detection of small amounts of chloral in the presence of chloroform and formalin embalming fluid, A., ii, 528.

Ghosh, Brojendra Nath. See Ananda Kisore Das.

Ghosh, Praphulla Chandra, curcumin, T., 292.

dyes derived from quinolinic acid, T., 1102.

Giemsa, G., and Josef Halberkann, cinchona alkaloids. I. Cupreine, hydrocupreine, and their methyl and ethyl ethers, A., i, 33.

cinchona alkaloids. II. 5-azo- and 5-amino-compounds of cupreine, hydrocupreine, and their methyl and ethyl ethers, A., i, 342. Gierisch, W. See Percy Waentig.

Martin,Gildemeister,  $\mathbf{a}$ nd

JussufSchükri, alleged irreciprocal permeability of the frog's skin to ions, A., i,

Giles, L. V. See F. P. Venable.
Gill, H. E. See William Allen Hamor. Gillespie, Louis J., and Lewis A. Hurst, hydrogen-ion concentration-soil typecommon potato scab, A., i, 115.

Gillet, R., estimation of furfuroids (furfurosans) in the different products of beet-sugar factories. II., A., ii, 302.

Gilman, H. See Elmer Peter Kohler.

Girard, Pierre, physical scheme for the study of the mineral nutrition of the cell, A., i, 419.

relation between the electric state of the cell wall and its permeability to a given ion, A., i, 461.

Giua, Michele, development of atomism, I., A., ii, 460.

Glatzel, Emanuel, "hydromagnocal-cite" from the Tatra Mountains, Carpathians, A., ii, 30.

Glover, Thomas. See Hugh Ryan.

Gluschke, A. See Georg Schroeter. Gluud, Wilhelm, and P. K. Breuer, xylyloxyacetic acids, A., i, 402.

Gluud, Wilhelm, and (Frl.) Henny Hövermann, paraffin from coal, A., i, 378.

Gluud, Wilhelm. See also Franz Fischer.

Goblet, F. See Julius Bredt.

Godchot, Marcel. See Félix Taboury. Godfrin, Paul, estimation of iodides, A.,

ii, 472. Godlewska, M. See Victor Lampe. Goebel, J., lead-sodium-mercury and lead-sodium-tin alloys, A., ii, 342.

Goerne, M. G. H. See Karl Thomas. Goldschmidt, S. See Sören

Lauritz Sörensen.

Goldschmidt, Stefan, hypochlorous acid and chlorine monoxide, A., ii, 227.

Goldstein, Henri. See Friedrich Kehr-

Goldthrope, H. C. See Joseph E. Greaves. Golse, volumetric method for the estimation of urea; applicable to urine, blood, serum, etc., A., ii, 203.

Gomberg, Moses, ethylene chlorohydrin and  $\beta\beta'$ -dichloroethyl sulphide, A., i, 567.

Gómez, Léon, principal methods for the determination of the ionic constitution of solutions of electrolytes and the application of these to the solution of uranyl nitrate, A., ii, 181.

Gonnermann, Max, the quantitative excretion of silicic acid in human

urine, A., i, 365.

González, F., and Enrique Moles, attempted synthesis of carbonyl sulphide by means of the electric spark, A., ii, 229.

Goodson, John Augustus, and Hubert William Bentley Clewer, examination of the bark of Croton gubouga; isolation of 4-hydroxyhygric acid, T., 923.

Goodwin, Harry Manley, and W. G. Horsch, electrical conductivity and other properties of saturated solutions of copper sulphate in the presence of sulphuric acid, A., ii, 443.

Goost, T. See Edgar Wedekind.

Gorski, Maryan, comparison of two fertilisers according to Mitscherlich's law of the minimum, A., i, 616.

Goswami, Mahendra Nath. See Biman Bihari Dey.

Goto, Kingo, mineral metabolism in experimental acidosis, A., i, 104.

Goudriaan, F., corrosion of metals. I. The rusting of iron, A., ii, 467.

Gough, William Henry, and Jocelyn Field Thorpe, asymmetric replacement in the meta-series. 1155.

Gourmain, Georges. See Paul Nicolardot.

Gränacher, Ch., microelementary analysis of compounds containing sulphur, halogens, and oxidised nitrogen; double combustion, A., ii, 169.
Gränacher, Ch. See also J. V. Dubsky.

Graham, Evarts A., and Helen Tredway Graham, retardation by sugars of diffusion of acids in gels, A., ii, 50.

Graham, Helen Tredway. See Evarts A. Graham.

Graham, J. Ivor, accurate estimation of carbon monoxide in gas mixtures, A., ii, 117.

Graham, R. P. D., ferrierite, a new zeolitic mineral, from Columbia, A., ii, 237. British

Canadian minerals [thaumasite, saponite, etc.], A., ii, 369.

Grahmann, Werner, production of ammonia from "nitrolime," and the time yield under various conditions, A., ii, 105.

Gramont, Arnaud de. See Alfred Lacroix.

Grandjean, Francis, orientation of anisotropic liquids on contact with crystals. II., A., ii, **3**22.

Grasser, Georg. See Robert Kremann. Gray, Harold. See E. A. Wildman. Greaves, Joseph E., azofication, A., i,

108. Greaves, Joseph E., and E. G. Carter,

the action of some common soil amendments, A., i, 564. Greaves, Joseph E., E. G. Carter, and

H. C. Goldthorpe, influence of salts on the nitric-nitrogen accumulation in the soil, A., i, 238. Greaves, Joseph E., and C. T. Hirst,

composition of the waters of the intermountain region, A., i, 116.

Green, Newton Baldwin, the effect of ions of sodium chloride and calcium chloride on the electrical conductivity of certain colloidal mixtures, A., ii, 398.

Greenwald, Isidor, the supposed occurrence of methylguanidine in meat, with observations on the oxidation of creatine by mercuric acetate, A.,

estimation of the inorganic constituents of blood and other physiological material, A., ii, 432.

Greenwood, Harold Cecil, and A. T. S. Zealley, apparatus for the automatic estimation of small amounts of oxygen in combustible gas mixtures or of combustible gases in air, A., ii, 197. Gregory, C. C. L. See Alfred Fowler. Greider, H. W. See Frank Burnett

Dains.

Griebel, Constant, and A. Schäfer, composition of inclusion cells and their relation to the mellowing of fruits, A., i, 427.

Griffiths-Jones, E., fat extraction apparatus, A., ii, 173.

Grigaut, A., and Fr. Guerin, estimation of urea and non-protein nitrogen in blood and tissue by means of Nessler reagent, A., ii, 304.

Grignard, Victor, and G. Rivat, with Ch. Mauguin, additive compounds of the halogen acids with diphenyl-

arsinic acid, A., i, 460. Grignard, Victor, and Edouard Urbain, the preparation of carbonyl chloride by means of carbon tetrachloride and oleum or ordinary sulphuric acid, A., ii, 340.

Grijns, G., is there a relationship between the power of absorbing radiant heat and the odour of substances? A., i, 423.

Grimbert, Léon, estimation of the amylolytic power of saliva, A., ii, 356.

Grindley, Harry Sands. See H. C. Eckstein.

Gros & Bouchardy, Ferdinand, and Lucien Jean Joseph Perruche, production of aromatic nitro-compounds, A., i, 527.

Groschuff, Erich. See Carl Dietrich Harries.

Gross, Anna. See Heinrich Biltz.

Gross, E. G. See H. Steenbock.

Gross, R., crystal assemblage in relation to the atomic field of the crystal, A., ii, 100.

the experimental investigation of crystal structure by means of Xrays, A., ii, 272.

Grossfeld, Johannes, recovery of ether in fat estimations, A., ii, 303.

Grossmann, Hermann, and Kurt Brauer, rotation dispersion and inversion of l-menthone, A., ii, 5.

Grote, Emma. See Otto Wallach.

Grun, Adolf, preparation of optically active propylene glycol, A., i,

the action of sulphuric acid on colophony, A., i, 448.

Grün, Adolf, and Th. Wirth, estimation of glycerol by means of the specific gravity and boiling point, A., ii, 202.

Grün, Adolf, Franz Wittka, and Emil Kunze, alcoholysis, A., i, 308.

Grünewald, Wilhelm, oceanic salt deposits, A., ii, 469.
 Grünhut, Leo, lecture experiments [to

illustrate] the reduction of hydrogenion concentration, A., ii, 332.

Grüttefien, W., compound of yohimbine

containing arsenic, A., i, 549. Grüttner, Gerhard, organic lead compounds. IX. Lead triphenyl haloids, A., i, 52.

Grüttner, Gerhard, and Marianne Cauer, silicon-hydrocarbons with nuclei containing halogens, and their use in syntheses, A., i, 50.

Grüttner, Gerhard, and Gertrud Grüttner, organic lead compounds. VIII. Mixed lead aryl alkyls of the type PbArR<sub>3</sub>, A., i, 52.

Grüttner, Gertrud. See Gerhard Grüttner.

See Rudolf Friedrich Gruhl, Paul.Weinland.

Guareschi, Icilio, general reaction of ketones, A., i, 94.

gaseous products of the putrid fermentation and the odour of truffles, A., i, 114.

water of crystallisation: compounds with 2H<sub>2</sub>O and 3H<sub>2</sub>O, A., i, 382.

new \$\beta\beta\text{dialkylglutaric acids, A., i,}

sulphite leuco-derivatives of triaminotriphenylmethane as reagents for alkalinity and for dissociation of salts, A., ii, 348.

Gubler, Hans. See Josef Tambor.

A., Günther-Schulze, behaviour electrolytic ions in solid substances; conductivity of permutite mixtures, A., ii, 490.

Guèrin, Fr. See A. Grigaut. Guggenheim, Markus, and E. Hug, ethanoltrialkylarsonium hydroxides, A., i, 577.

ethanoltrialkylarsonium compounds, A., i, 577.

Guglialmelli, Luis, arsenotungstic and arsenotungstomolybdic complexes as reagents for phenolic amines, A., ii,

tungstic and molybdic complexes as precipitants of organic bases, A., ii, 305.

Guha, Prafulla Chandra. See (Sir)Prafulla Chandra **Rây.** 

Guiteras, Juan, electroanalysis of copper without platinum electrodes, A., ii,

Gumlich, E., dependence of the magnetic properties, the specific resistance, and the density of iron alloys on their

thermal treatment, A., ii, 93. Gurevich, L. J., and Edward Wichers, comparative tests of "palau" and "rhotanium" ware as substitutes for platinum laboratory utensils, A., ii, 347.

Gustafson, F. G., comparative studies on respiration. IX. The effects of antagonistic salts on the respiration of Aspergillus niger, A., i, 611.

Gutbier, Alexander, and O. Maisch, behaviour of hydrogen towards platinum,

A., ii, 368.

Guthier, Alexander, Berta Ottenstein, and G. L. Weise, behaviour of hydrogen towards iridium, A., ii, 367.

Gutbier, Alexander, and G. L. Weise, electrolytic preparation of colloidal selenium, A., ii, 365.

Gutmann, August, action of alkaline reducing agents on iodoform, A., i,

Guye, Philippe Auguste, calculation of the divergences from Avogadro's law by the method of compressibilities; application to hydrogen bromide, A., ii, 318.

physico-chemical revision of the atomic weight of bromine; necessity of

correcting the atomic weight of silver, A., ii, 333.
Guyot, J., and Louis Jacques Simon, action of heat on the alkali and alkali-earth methyl sulphates, A., i,

action of methyl sulphate on the alkali and alkali-earth sulphates, A., i, 381.

action of methyl sulphate and methyl alkali sulphate on dry alkali chlorides and bromides, A., i, 465.

action of metallic hydroxides and oxides and alkaline-earth carbonates on methyl sulphates, A., i, 515.

action of concentrated sulphuric acid on methyl alcohol, A., i, 565.

action of sulphuric anhydride and of fuming sulphuric acid on methyl alcohol; preparation of methyl sulphate, A., i, 566.

Guzmán, Julio de, electroanalysis of gold without platinum electrodes, A., ii, 300.

Guzmán, Julio de, and Pelayo Poch, the electrolytic estimation of mercury without platinum electrodes, A., ii, 247.

#### H.

Haarmann, R. See CarlDietrichHarries.

Haas, A. R. C., colorimetric determination of the hydrogen-ion concentration in small quantities of solution, A., ii, 294.

Haas, A. R. C. See also Winthrop John Vanleuven Osterhout.

Haas, Otfried. See Robert Kremann.

Haas, R. N. de, the lowering of the degree of dissociation, A., ii, 53.

Habasian, Y. See Ebenezer Henry Archibald.

Hackh, Ingo W. D., organic symbols, A., i., 245.

bioelements; the chemical elements of living matter, A., i, 297.

the structure of radioactive elements, A., ii, 358.

"old age " of chemical elements, A., ii, 358.

Hackl, O., direct estimation of combined ferric oxide in silicates insoluble in acids, A., ii, 120.

use of filter-paper pulp in analysis, A., ii, 166.

microchemical distinction of sericite and tale, A., ii, 298.

device for guarding against overtitration, A., ii, 370.

apparatus for the collection of gases in springs, A., ii, 421.

Hackspill, Louis, and Mathieu, a new method for the rapid determination of critical temperatures; application to carbonyl chloride, A., ii, 446.

Hadfield, (Sir) Robert, the occlusion of gases by metals; introductory address to general discussion, A., ii, 448.

Haenni, P. See Volkmar Kohlschütter. Hagelin, A. See Håkan Sandqvist.

Hageman, Aaron M., preparation of certain organic salts of tellurium, A., i, 195.

tellurium sulphide, A., ii, 190.

Hager, G., and J. Kern, solubility of calcium carbonate of different origins and degrees of fineness in water containing carbon dioxide in relation to soil and plants, A., i, 615.

Hahn, Friedrich L., and Milly Loos, synthesis of derivatives of diethylaminoacetylsalicylic [o-diethylaminoacetoxybenzoic] aoid, A., i, 18.

Hahn, Otto, and Lise Meitner, protactinium and the life period of actinium, **A**., ii, 209.

Hahn, Otto, and Martin Rothenbach, the radioactivity of rubidium, A., ii,

Halberkann, Josef, quinine and hydroquinine in the human body; behaviour of quinine towards red blood cells, A., i, 506.

Halberkann, Josef. See also G. Giemsa. Haldane, John Scott, the extension of the gas laws to liquids and solids. Ă., ii, 138.

ale, William Jay, four-membered cyclic ureas. I. History and nomen-Hale, clature, A., i, 224.

Hale, William Jay, and Edgar C. Britton, the preparation of phenyl B-aminoethyl ketone, A., i, 332.

condensation of phenyl \(\beta\)-aminoethyl ketone with nitromalonaldehyde, A., i, 405.

Hale, William Jay, and Edward M. Honan, condensation of amino-compounds withnitromalonaldehyde, A., i, 469.

Hale, William Jay, and Norbert A. Lange, four-membered cyclic ureas. II. Condensation of isocyanic acid

with a Schiff base, A., i, 224. Hall, R. E., and Leason H. Adams, application of the thermionic amplifier to conductivity measurements, A., ii,

Halla, Franz, and A. Schuller, law of blackening of layers sensitive to light, A., ii, 6.

Haller, Percy, estimation of sulphites and of sulphur dioxide in gaseous mixtures, A., ii, 198.

Haller, R., adsorption compounds. II.. A., ii, 184.

Halliburton, William Dobinson, and Otto Rosenheim, the nomenclature of blood pigment and its derivatives, A., i, 460.

Hallimond, A. F., crystallography of vogtite, an anorthic metasilicate of iron, calcium, manganese, and magnesium, from acid steel-furnace slags, A., ii, 517.

Halverson, John O., modified Benedict method for the estimation of sulphur

in feeds, fæces, and foods, A., ii, 520. Halverson, John O., and J. A. Schulz, action of 10 per cent. thymol-chloroform preservative on the chlorine content of urine, A., i, 235.

Hamburger, Hartog Jakob, a reaction for lecithin, A., ii, 375.

Hamburger, Hartog Jakob, and C. L. Alons, the retention power of the kidney for dextrose; can the calcium in the perfusion fluid be replaced by strontium, barium, or magnesium? A., i, 364.

Hartog Jakob, and R. Hamburger, Brinkman, behaviour of the kidneys towards some isomeric sugars (dextrose, lævulose, galactose, mannose, and sucrose, maltose, lactose), A., i, 187.

Hamburger, L., ultramicroscopic examination of very thin deposits, of metals and salts, obtained evaporation in high vacua, A., ii, 136.

removal of residual gases, especially from the electric glow lamp, A., ii, 388.

Hamburger, L., G. Holst, D. Lely, and E. Oosterhuis, influence of different substances on the absorption of light by thin tungsten layers, A., ii, 383.

**Hamel**, F., estimation of dextrose in the

blood, A., ii, 84.

Hammick, D. L., latent heat and surface energy, A., ii, 389.

Hamor, William Allen, and H. E. Gill, new synthesis of phosgenite, A., ii, 343. **Hampel**, H., and R. Steinau, new method

for the synthesis of ammonia, A., ii, 62. Hanke, Milton Th., and Karl K.

Koessler, electronic constitutions of acetoacetic and citric acids and some of their derivatives, A., i, 4.

Hanke, Milton Th. See also Karl K. Koessler.

Hansen, Svend. See S. Marcussen.

Hantzsch, Arthur [Rudolf], absorption and constitution of the simplest triphenylmethane- and azo-dyes, and re-

lated compounds, A., ii, 255.

Hantzsch, Arthur, F. Hein, and M. Hardtmann, absorption and constitution of the coloured alkali salts of nitrotriphenylmethanes and related

compounds, A., ii, 254.

Hanzlik, Paul J., and N. C. Wetzel, the salicylates. XI. The stability and destruction of the salicyl group under biological conditions, A., i, 563.

the salicylates. XII. The excretion of salicyl after administration of methyl salicylate to animals, A., i, 563.

Harden, Arthur, and Robert Robison, antiscorbutic properties of concentrated fruit juices, A., i, 186.

Harden, Arthur, and Sylvester Solomon Zilva, accessory factors in the nutrition

of the rat, A., i, 186. Hardt, Albin. See Walter Dieckmann. Hardtke, O. See Johannes Stark.

Hardtmann, M. See Arthur Hantzsch. Harger, Rolla N., preparation of "metol" (N-methyl-p-aminophenol sulphate), A., i, 153.

Hári, Paul, absorption of light by neutral solutions of oxyhæmoglobin,

A., i, 505.

is the absorption [of light] (Vierordt) a characteristic value, independent of the apparatus (spectrophotometer) employed? A., ii, 381.

Harkins, William Draper, and F. E. Brown, determination of surface tension (free surface energy), and the weight of falling drops; surface tension of water and benzene by the capillary height method, A., ii, 221.

Harkins, William Draper, and H. H. King, electromagnetic hypothesis of the kinetics of heterogeneous equilibrium; the structure of liquids and cohesion, A., ii, 324. Harkins, William Draper, and H. M.

Paine, intermediate and complex ions. V. The solubility product and activity of the ions in bivalent salts, A., ii,

Harned, Herbert S., neutral salt catalysis [corrections], A., ii, 404.

Harries, Carl Dietrich, nature of the fatty acids produced by the oxidation of brown coal tar oil, A., i, 195.

Harries, Carl Dietrich, August Baudrexel, Erich Groschuff, R. Haar-mann, H. Hohenemser, Bernhard Herbert Thornl, Schellhorn, Arthur Zart, cyclic acctone bases, A., i, 131.

Harrington, George T. See William Crocker.

Harris, Ben R. See Louis J. Curtman. Harris, Joseph Walter, the optically active neomethylhydrindamines, T., 61.

Harris, Leslie J., alignment chart for the solution of molecular weight and vapour density problems, A., ii, 410.

Harrison, Edward Frank, obituary notice of, T., 562.

Hart, David. See Louis J. Curtman.

Hart, Edwin Bret, V. E. Nelson, and Walter Pitz, synthetic capacity of the mammary gland. I. Can this gland synthesise lysine? A., i, 106.

Hartley, Ernald George Justinian. See

(the Earl of) Berkeley. Hartmann, Max, and Ernst Wybert, thienylquinolinecarboxylic acid, A., i, 172.

Hartmann, Willy, separation of tin, antimony, and arsenic by Plato's method, A., ii, 430.

Hartwell, Burt Laws, and F. R. Pember, the presence of aluminium as a reason for the difference in the effect of so-called acid soil on barley and

rye, A., i, 143. Harvey, A. W. See David Shepard Pratt.

Harvey, E. Newton, bioluminescence. VII. Reversibility of the photogenic reaction in Cypridina, A., i, **299.** 

bioluminescence. IX. Chemical nature of Cypridina luciferin and Cypridina luciferase, A., i, 299.

the relation between the oxygen con-centration and rate of reduction of methylene-blue by milk, A., ii, 241.

Hasegawa, C. See Yasuhiko Asahina. Haskins, Howard D., modifications of Benedict's and Folin's quantitative sugar methods, A., ii, 171.

Hatschek, Emil, forms assumed by drops and vortices of a gelatinising liquid in various coagulating solutions, A.,

ii, 140.

Hatt, Daniel. See Richard Willstätter. Hauser, Otto, and H. Herzfeld, crystalline substances with colloidal properties; basic zirconium sulphates and the molecular state of zirconium sulphate in aqueous solution, A., ii, 290.

Hawkins, Alfred C., fibrous quartz from

Rhode Island, A., ii, 109.

Haworth, Walter Norman, and James Colquhoun Irvine, preparation of methyl sulphate, A., i, 147.

Haworth, Walter Norman, and (Miss) Grace Cumming Leitch, the constitution of the disaecharides. III. Maltose, T., 809. Hawse, V. P.

See Ernest Jenkins Hoffmann.

Haynes, Dorothy, electrical conductivity as a measure of the content of electrolytes of vegetable saps, A., i, 512.

Heap, William, and Edgar Newbery, manufacture of metal chlorides, A., ii,

Heberlein, Christian. See Robert Ludwig Mond.

Hedin, Sven Gustav, proteolytic relationships in the serum of the horse and

ox, A., i, 184.

Hedvall, J. Arvid, the decomposition of barium peroxide and the reactivity of the resulting barium oxide, A., ii, 26.

Heidelberger, Michael, and Walter Abraham Jacobs, synthesis in the cinchona series. I. The simpler cinchona alkaloids and their dihydro-derivatives, A., i, 493.

certain amino- and acylamino-phenol ethers, A., i, 588.

Heidelberger, Michael. See also Walter Abraham Jacobs.

Heider, Karl. See Julius von Braun.

Heiduschka, Alfred, and M. Faul, meconic acid and its behaviour in the estimation of morphine in opium, A., i, 493.

estimation of morphine and solubility of morphine in ammonia, A., ii, 437.

Heiduschka, Alfred, and K. Lüft, fatty oil from the seeds of the evening primrose [Oenothera biennis], and a new linolenic acid, A., i, 372.

Hein, F., organo-chromium compounds, A., i, 232.

Hein, F. See also Arthur Hantzsch. Heinemann, A. C. See Julius Bredt. Heintze, S. See Hans von Euler.

Heinze, Anna. See Karl von Auwers.

Heinze, Ernst, the reduction of sulphurous acid by hydrogen sulphide in aqueous solution, A., ii, 334.

Heinzler, Josef. See Rudolf Friedrich Weinland.

Heitz, W. See Fritz Straus.

Helferich, Burckhardt, y-hydroxyvaleraldehyde, A., i, 386.

Heller, Gustav, new cases of isomerism in the isatin series. II. and III., A., i, 36, 282.

new transitions from the indole to the quinoline series, A., i, 283.

indophenols and indamines. II. A., i, 542.

Hempel, Jenny. See Sören Peter Lauritz Sörensen.

Henderson, Lawrence Joseph, Edwin J. Cohn, P. H. Cathcart, J. D. Wachman, and W. O. Fenn, action of acid and alkali on gluten, A., i, 294.

Hepworth, Harry, the absorption spectra of the nitric esters of glycerol, T.,

the action of Grignard reagents on the esters of certain dicarboxylic acids, T., 1203.

Herbig, W., influence of temporary hardness on the estimation of chlorides

in water, A., ii, 425. Hérissey, *Henri*. See *Émile* Bourquelot. Herman, Albert G. See Richard C. Tolman.

Herrmann, Ernst, ultraviolet absorption of pyridine, α-picoline, β-picoline, and piperidine, A., ii, 382.

Hertz, Gustav. See J. Franck.

Herz, Edmund von, decomposition of tetranitromethylaniline [2:4:6- trinitrophenylmethylnitroamine], A., i, 583.

lead nitrato-hypophosphate and re-

lated substances, A., ii, 284.

Herz, Walter [Georg], the change of density of liquid mixtures with increasing temperature, A., ii, 47.

vapour pressure regularities. I. and II., A., ii, 184, 218.

thermal conductivity of organic compounds, A., ii, 214.

calculation of the density of some elements at the absolute zero, A., ii, 220.

density and temperature. I. and II., A., ii, 268, 391.

calculation of the latent heat of vaporisation from critical data, A., ii, 494.

Herzberg, G. See Georg Schroeter. AlfredHerzenberg, Johann. See

Schaarschmidt.

Herzfeld, E., and R. Klinger, chemical studies in physiology and pathology. VI. The biochemistry of oxidation (cell respiration; oxidising enzymes; the theory of narcosis), A., i, 297.

chemical studies in physiology and pathology. VIII. The question as to iodine fixation in the thyroid gland, A., i, 608.

Herzfeld, H. See Otto Hauser.

Herzfeld, Karl F., theory of the velocity

of reaction in gases, A., ii, 503.

Herzig, Josef, and F. Schiff, guaiaretic acid, A., i, 275.

Herzog, Walter, method for the pre-paration of phthalimide, A., i, 536.

Hess, Kurt, the alkaloids of the pomegranate tree. VII. Natural occurrence of isopelletierine, A., i, 348.

Hess, Kurt, (Frl.) Annaliese Eichel, and H. Munderloh, the alkaloids of the pomegranate tree. VI. The relationship between methylisopelletierine, dl-methylconhydrinone, andmethylpiperidylpropan-α-one; an instance of isomerism with substances containing an asymmetric tervalent

nitrogen atom, A., i, 345. Hess, Kurt, and Friedrich Leibbrandt,

guvacine, A., i, 220. Hesse, Erich. See Jakob Meisenheimer. Heubner, Wolfgang, steric hindrance of methyl groups in the nucleus, A., i, 294.

Heurlinger, T., and E. Hulthén, structure of the band spectra of burning hydrocarbons, A., ii, 378.

Heuse, Wilhelm, specific heat of argon and several polyatomic gases, A., ii, 388.

Heuse, Wilhelm. See also Karl Scheel. Heward, JosephAlan. See Evelyn Ashley Cooper.

Hewitt, John Theodore, and William Jacob Jones, the estimation of the methoxyl group, T., 193.

Heyer, George. See Robert Behrend. Heyl, Frederick William, the protein extract of ragweed pollen, A., i,

the yellow colouring substances of ragweed pollen, A., i, 615.

Heymann, B., Oskar Dressel, Richard Kothe, and A. Ossenbeck, ureides of substituted aminonaphtholsulphonic acids, A., i, 601.

Heyn, Myron. See Heinrich Biltz.

Hibbard, P. L., alkalimetric estimation of small amounts of magnesium, A., ii, 428.

method for estimation of carbon by wet combustion, using barium hydroxide as absorbent, A., ii, 523.

Hibbert, (Miss) Eva. Knecht. See Edmund

Hickinbottom, Wilfred John. See Joseph Reilly.

Hicks, J. F. G., preparation and properties of vttrium mixed metal, A., ii, 27. Hicks, William Mitchinson, value of the silver oun, A., ii, 377.

series system in the spectrum of gold,

A., ii, 441. Hieber, Walter. See Rudolf Friedrich Weinland.

Higson, Geoffrey Isherwood. See Roland Edgar Slade.

Hildebrand, Joel H., solubility. III. Relative values of internal pressures and their practical application, A., ii, 392.

Hilditch, Thomas Percy. See Edward Frankland Armstrong.

Hildt, E., estimation of lactose, A., ii,

Hill, Charles Alfred. See Henry Droop Richmond.

Hilpert, Siegfried, decomposition of acetylene at high temperatures in the presence of various catalysts, A., i, 380.

Hilpert, Siegfried. See also Franz Fischer.

Hiltner, R. S., and H. J. Wichmann, zinc in oysters, A., i, 421.

Hinsberg, Oscar [Heinrich Daniel], theory of acids, A., i, 148.

derivatives of iso-a-naphthyl-1:4-dihydroxy-β-naphthylsulphone, A., i, 202.

peri-naphthylenediamine and selenious acid, A., i, 226.

valency centres, A., ii. 505.

Hinshelwood, Cyril Norman, the oxidation of phenol derivatives, T., 1180.

Hintikka, S. V., camphenecamphoric

acid, A., i, 488.

Hintikka, S. V., and Linda Melander, some esters of p-nitro- and p-amino-

benzoic acid, A., i, 485. Hintzelmann, Ulrich, identification of iodine in blood by a microcrystallographic method, A., ii, 294.

Hirai, K., formation of d- $\beta$ -iminazolyllactic acid from *l*-histidine by bacteria, A., i, 612.

Hirschberg, Else, and Hans Winterstein, the degradation of fatty substances in the central nervous system, A., i, 420.

Hirst, C. T. See Joseph E. Greaves, and C. W. Porter.

Hissink, David Jacobus, the Brownian movement in relation to the mechanism of flocculation, A., ii, 52.

Hoagland, D. R. See Carl L. A. Schmidt.

Hodges, E. Rattenbury, aluminium and a double salt, A. ii, 414.

Hodgson, G. H., rapid estimation of lead in brass and alloys, A., ii,

Hoeltzenbein, Sophie, measurements in the arc spectrum of iron for the purpose of determining tertiary nor-

mals, A., ii, 441.

Hönig, M., [estimation of methoxyl groups], A., ii, 171.

Hönigschmid, Otto, new atomic weight determinations; [thorium-lead and scandium], A., ii, 285. thorium-lead, A., ii, 465.

Hoepfner, W., and O. Binder, estimation of molybdenum in ferromolybdenum, **A.**, ii, 81.

Hoepner, Karl, estimation of ethyl al-cohol in the presence of volatile substances, especially aldehyde and acetone, and the simultaneous estimation of the latter, A., ii, 434.

Hoerenz, J. See Wilhelm Traube.

Hövermann, (Frl.) Henny. See Wilhelm Gluud.

Höyrup, Margrethe. See Sören Peter Lauritz Sörensen.

Hoffman, Ernest Jenkins, and Perry A. Dame, preparation of hexanitrodiphenylamine from chlorobenzene, A., i. 394.

Hoffman, Ernest Jenkins, and V. P. Hawse, nitration of sucrose; sucrose

octanitrate, A., i, 148.

Hofmann, Karl Andreas, activation of carbon monoxide by metallic copper, the generator gas-cell and electromotive activation of alkali formates, A., ii, 8. oxidation of carbon monoxide in con-

tact with copper, A., ii, 23.

Hofmann, Karl Andreas, and Helge Schibsted, reducibility of formic acid, A., i, 7.

production of formaldehyde and methyl alcohol from formates, A.,

Hofmann, Karl Andreas, and B. Wurthmann, electromotive activity of carbon monoxide. II., A., ii, 315.

Hogewind, F. See Hendrik Zwaarde-

Hohenemser, H. See Carl Dietrich Harries.

Hollande, A. Ch., precipitation of proteins by ammonium sulphate and biochemical reactions, A., ii, 439.

Holleman, Arnold Frederik, Eykman's refractometric investigations in connexion with the presentation of the edition of his works, A., ii, 483.

Holleman, Arnold Frederik, and B. F. H. J. Matthes, the addition of hydrogen bromide to allyl bromide, A., i, 1.

Holmberg, Bror, lactonic acids, A., i, 309.

electrolytic dissociation of sodium

iodide, A., ii, 283. Holmes, Harry N., and Paul H. Fall, influence of the age of ferric arsenate on its peptisation, A., ii, 454.

jellies [formed] by slow neutralisation, A., ii, 455.

Holmes, Harry N., Wilford E. Kaufmann, and Henry O. Nicholas, vibration and syneresis of silicic acid gels, A., ii, 454.

Holmsen, Paul, estimation of iron, zinc, copper, and aluminium in aluminium alloys, A., ii, 429.

titrimetric estimation of lead, A., ii,

Holst, G. See L. Hamburger.

Holt, F. See Noël Guilbert Stevenson Coppin.

Hommel, W., the mythical Basil Valentine, A., ii, 224.

Honan, Edward M. See William Jay Hale.

Honda, Kôtarô, latent heat of fusion as the energy of molecular rotation, A., ii, 11.

Honegger, P. See G. Oesterheld. Hood, H. P., and H. R. Murdock, superpalite [trichloromethyl chloroformate],

A., i, 568.

Hooper, C. W. See (Miss) M. G. Foster. Hopfgartner, Karl, transport number of chromic ions in violet chloride solu-

tions, A., ii, 444. Hopfield, J. J. See Charles L. Bright-

Hopkins, B. Smith. See H. C. Kremers, and Edward Wichers.

**Hopkins**, E. F., dichloroethyl sulphide (mustard gas). III. Solubility and hydrolysis of dichloroethyl sulphide with a new method for estimating small amounts of the same, A., i, 250. Horák, O. See Julius Stoklasa.

Horiba, Shinkichi, chemical resistance. II. Applications of the theory of quanta to chemical dynamics, A., ii, 188.

Horsch, rapid method of reduction of potassium platinichloride, A., ii, 118.

Horsch, W. G. See Harry Manley Goodwin.

Horton, Frank, and Ann Catherine Davies, determination of the ionisation potential for electrons in helium, A., ii, 210.

Horváth, Béla von, amount of amorphous silica in the soil, A., ii, 33.

Hostetter, J. Clyde, hydrochloric acid colour method for estimating iron, A., ii, 525.

Hostetter, J. Clyde, and Howard S. Roberts, electrometric titrations, with special reference to the estimation of ferrous and ferric iron, A., ii, 480.

Hough, George J., an automatic burette, Ā., ii, 196.

an unlisted mineral, A., ii, 469.

Howden, R., condenser, A., ii, 22.

volumetric estimation of the sulphion, A., ii, 76.

Howe, L. Isabel, stearic and palmitic esters of the isomeric propylene glycols, A., i, 383.

Hubbard, Roger S. See Glenn E. Cullen.

Hudig, J., and W. Sturm, a modified hydrogen electrode, A., ii, 212.

Hudson, Claude S., and ShigeruKomatsu, the rotatory powers of the amides of several α-hydroxy-acids of the sugar group, A., i, 524.

Hudson, Claude S., and K. P. Monroe, the amide of a-d-mannoheptonic acid,

A., i, 525.

Hudson, Claude S., and S. F. Sherwood, the occurrence of melezitose in a manna from the Douglas fir, A., i, 59. Hüffer, E. J. E., the applications of Beer's law in organic chemistry,

A., ii, 358.

Hug, E. See Markus Guggenheim.

Hughes, William, the reaction between sodium chloride solution and metallic magnesium, T., 272.

Hull, A. W., new method of chemical analysis, A., ii, 470.

Hull, Mary. See Frederic Fenger. Hulthén, E. See T. Heurlinger.

Hume, E. Margaret. See Harriette Chick.

Humiston, B. See W. L. Argo.

Lewis A. See Hurst. LouisJ. Gillespie.

Hurtzig, Leopold. See August Albert. Hutchinson, G. F. See David Shepard Pratt.

I.

Iffland, F. See Eilhard Alfred Mitscherlich.

Ihnatowicz, K. von, and Stefan von Niementowski, 3:2'-diquinolyl-2-carboxylic acid, A., i, 223.

Iitaka, Hirô, variation of the specific heat during melting and the heat of fusion of some metals, A., ii,

Illingworth, C. B. See George Leslie Kelley.

Ingold, Christopher Kelk, and Jocelyn Field Thorpe, experiments on the elimination of the carbethoxyl group from tautomeric systems. rivatives of indene, T., 143.

the formation and stability of spirocompounds. II. Bridged-spiro-compounds derived from cyclohexane, T., 320.

Ireton, H. J. C. See John Cunningham

McLennan. Irineu, D. See Georg Schroeter.

Irvine, James Colquhoun, and James Scott Dick, the constitution of maltose; a new example of degradation in the sugar group, T., 593.

Irvine, James Colquhoun.

See also

Walter Norman Haworth.

Issoglio, G., nephelometric estimation of acetone in urine, A., ii, 304. Izdebska-Domanska, S. See J.

Dubsky.

J.

Jackson, R. F. See Eugene C. Bingham.

Jacobs, W., the valency-hypothesis of J. Stark, A., ii, 58.

Jacobs, Walter Abraham, Wade H. Brown, Michael Heidelberger, and Louise Pearce, arsenical compounds, A., i, 231.

Jacobs, Walter Abraham, and Michael Heidelberger, the isomeric hydroxyphenylarsinic acids and the direct arsenation of phenol, A., i, 604.

bs, Walter Abraham, Michael Heidelberger, and Ida P. Rolf, MichaelJacobs, nitro- and amino-arylarsinic acids, A., i, 50.

some aromatic amines and chloroacetyl derivatives, A., i, 264.

Jacobs, Walter Abraham. See also Michael Heidelberger.

Jacobson, Carl Alfred, alfalfa [lucerne] investigation. VII. Alfalfa saponin, A., i, 375.

Jacoby, Martin, the supposed degradation of starch by formaldehyde, A., i, 311.

bacterial catalase. III., A., i, 503.

Jaeger, Frans Mauritz, Pasteur's principle of the relation between molecular and physical asymmetry. V. Optically active complex salts of iridium-trioxalic acid, A., i, 5.

Theobald van Hogelande, A., ii,

researches on Pasteur's principle, A., ii, 310.

Jaeger, Franz Mauritz, and William Thomas, Pasteur's principle of the relation between molecular and physical asymmetry. VI. The fission of potassium rhodium malonate into its optically active compounds, A., i, 5.

Pasteur's principle of the relation between molecular and physical asymmetry. VII. Optically active salts of the triethylenediaminechromi-series, A., i, 8.

Pasteur's principle of the relation between molecular and physical asymmetry. VIII. On the spontaneous fission of racemic potassiumcobalti-oxalate into its optically active antipodes, A., i, 252.

Jäger, Gustav, osmotic-kinetic theory of dilute solutions, A., ii, 222.

Jänecke, Ernst, a new method of determining the allotropic transformation of nickel, A., ii, 159.

constitution of iron-chromium alloys, A., ii, 468.

Jahr, H. M. See Sergius Morgulis.

Jakob, Johann, theory of magmatic mineral-forming agents, A., ii, 419.

James, Charles, scandium from a Brazilian source, A., ii, 27.

James, Charles. See also Paul H. M. P. Brinton, and H. C. Fogg.

James, Thomas Campbell, James Ivor Morgan Jones, and Robert Illtyd Lewis, preparation of explosives, A., i, 480

James, Thomas Campbell. See also Eric

Jamieson, George Samuel, gravimetric and volumetric estimation of mercury precipitated as mercury zinc thiocyanate, A., ii, 248.

Jander, Gerhart, antimonic acids and antimonates, A., ii, 29.

Jander, Gerhart. See also Richard Zsigmondy.

Janecke, Franz. See Daniel Vorländer. Jankowsky, Walther, theory of specific heat. II. and III., A., ii, 133. maximum temperature [limit], A., ii,

493. Jannasch, Paul, and Friedrich Noll, estimation of boric acid, A., ii, 297.

Jantsch, G., and W. Urbach, compounds of thorium. I. Addition and substitution compounds of thorium chloride, A., i, 566.

Jastrowitz, H., the biological action of thorium, A., i, 423.

Jeans, James Hopwood, the quantum theory and new theories of atomic structure, T., 865.

Jellinek, E. See Karl Jellinek.

Jellinek, Karl, and E. Jellinek, chemical decomposition and electrolytic formation of sodium hyposulphite, A., ii, 231.

Jenkins, William Job.See David Leonard Chapman.

Jennesseaux,  $\bar{L}$ ., action of potassium cyanide on ammoniacal copper sulphate and its application to the estimation of hydrocyanic acid and copper, A., ii, 122.

Jennings, W. L., and W. B. Scott, preparation of cyanogen chloride, A., i, 526.

Jephcott, Harry, the physical constants of nicotine. I. Specific rotatory power of nicotine in aqueous solution, T., 104.

Jirsa, Fr., disgregation of the oxidation products produced on silver anodes in alkaline media, A., ii, 264.

Joachimowitz, Marianne. See Richard Wasicky.

Joannis, A., some properties of acid phosphates, A., ii, 340.

Jodidi, Samuel L., and S. C. Moulton, cause of and remedy for certain in-accuracies in Hausmann's nitrogen distribution method, A., i, 603.

Jönsson, Edv. See Manne Siegbahn. Johansson, Hjalmar, and Hugo Sebelius, hydrolysis of glycollide and lactide in acid solution, A., i, 251.

Johns, Cosmo, the physical properties of metals as affected by their occluded gases, A., ii, 449.

Johns, Carl Oscar, and A. J. Finks, lysine as a hydrolytic product of hordein, A., i, 359.

Johns, Carl Oscar, and David Breese Jones, proteins of the peanut, Arachis hypogea. III. The hydrolysis of arachin, A., i, 102.

estimation of tyrosine in proteins, A., ii, 88.

Johns, Carl Oscar. See also David Breese Jones.

Johnson, Alfred J. See Harrison Eastman Patten.

Johnson, Chas. Morris, estimation of phosphorus in vanadium steels, ferrovanadium, non-vanadium steels, and pig iron, A., ii, 168.

Johnson, Treat Baldwin, and Peter G. Daschavsky, researches on proteins. VI. The destructive distillation of fibroin, A., i, 559.

Johnson, Treat Baldwin, and Iwao Matsuo, pyrimidines. LXXXVII. Alkylation of 5-aminouracil, A., i,

Johnson, Treat Baldwin, and Louis A. Mikeska, pyrimidines. LXXXVIII. Synthesis of cytosine aldehyde, A., i, 499.

Johnston, E. N. See Ralph Stayner Lillie.

Johnston, John. See Leason H. Adams. Jolibois, Pierre, and André Sanfourche, the constitution of nitrous vapours, A., ii, 105.

Jona, Mario, dependence on temperature of the dielectric constant of some gases

and vapours, A., ii, 130.

Jones, A. J., detection of the halogens in mixtures of their salts, A., ii, 472.

Jones, David Breese, and Carl Oscar

Johns, hydrolysis of kafirin, A., i, 101.

Jones, David Breese. See also Carl Oscar Johns.

Jones, David Charles, dehydration of formic acid solutions, A., i, 520.

Jones, David Charles. See also Kennedy Joseph Previté Orton.

Jones, David Trevor, glyceryl methyl ether dinitrate (a-methylin dinitrate), T., 76.

Jones, F. Butler, analysis of commercial

"pure" benzols, A., ii, 82.

Jones, F. Butler. See also Percy Edwin

Spielmann. Jones, G. W., and Vernon C. Allison, carbon tetrachloride, chloroform, and carbon hexachloride from natural gas, A., i, 429.

Jones, G. W., and M. H. Meighan, sodium pyrogalloxide solution as an

absorbent for oxygen, A., ii, 240.

Jones, James Ivor Morgan. See Thomas Campbell James.

Jones, Walter, application of the Kjeldahl method to compounds of brucine, with reference to the brucine salt of a new nucleotide, A., i, 559.

Walter, and R. P. Kennedy, Jones, adenine mononucleotide, A., i, 294, 360.

Jones, William Jacob. See John Theodore Hewitt.

Jones, W. N. See Elmer Peter Kohler. Jong, Anne Willem Karel de, heterocinnamic acids of Erlenmeyer, jun., A., i, 486.

estimation of the geraniol content of citronella oil, A., ii, 171.

CXVI. ii.

Jong, D. J. de, the determination of the melting points of fats and similar substances by means of the "ascension" method, A., ii, 316.

Jorissen, Willem Paulinus, a relation between boiling points at one atmosphere and in a "vacuum," A., ii,

10.

oxidation pressure limits (a theory of the pressure limit in autoxidation) A ii 60

dation), A., ii, 62.
Jovanovich, P. See Nicola Parravano.
Joyner, R. A. See Georg Bredig.

Junk, A., preparation of stable starch and oxalic acid solutions by means of metallic mercury, A., ii, 294.

Justin-Mueller, Ed., solubility of cupric hydroxide, to a certain concentration in sodium hydroxide and potassium hydroxide, A., ii, 27.

preparation of a solution of cupric hydroxide in sodium hydroxide for the detection and estimation of sugars, A., ii, 202.

alkali hypochlorites; free or combined salts, A., ii, 464.

### K.

Kaase, W. See P. Karrer.

Kadisadé, A. Refik. See Emil Fischer. Kaiser (Mllc.) L., equilibrium between potassium, rubidium, cæsium, and uranium**, A.**, i, 562.

Kam, James, molecular attraction and attraction of mass, and some new gas equations, A., ii, 48.

Kam, James. See also James William McBain.

Kamm, Oliver. See Roger Adams, and C. S. Marvel.

Kane, Thomas. See Confectionery Ingredients, Ltd. Kangro, W. See Max Le Blanc.

Karaoglanow, Z., gravimetric estimation of phosphoric acid as magnesium

pyrophosphate, A., ii, 242. Karaoglanew, Z., and P. Dimitrow, some properties of magnesium ammonium phosphate and magnesium phosphate, A., ii, 64.

Karrer, P., occurrence of hydrogen selenide in rain and snow, A., ii, 23. hydroxy-carbonyl compounds. I. New synthesis of hydroxy-aldehydes, A. i, 160.

hydroxy - carbonyl compounds. Synthetic experiments in the Filix group, A., i, 592.

hydroxy-carbonyl compounds. synthesis of isocotoin, A., i, 594. Karrer, P., and W. Kaase, the Walden

inversion, A., i, 570.

Karrer, P., O. Någeli, and H. Weidmann, glucosides. IV. The glucosides of mandelic, lactic, and salicylic acids; a new chemical resolution of

mandelic acid, A., i, 594.

Karrer, P., C. Nägeli, H. Weidmann, and L. Wilbuschewich, synthetic III. A contribution to glucosides. the constitution of internally complex salts, A., i, 338.

Karrer, P., and Fr. Widmer, syntheses in the catechin group, A., i, 595.

Karrer, P., and E. Zeller, action of cyanogen bromide on aromatic hydrocarbons under the influence of aluminium chloride, A., i, 591. Kasiwagi, Itizo. See Keita Shibata.

Kast, H., and Alfred Langhans, salts of hexanitrodiphenylamine, A., i, 394.

Kather, B. See Carl Mannich. Katz, Gertrud, the influence of narcotics on the permeability of blood-corpuscles

for dextrose and carbamide, A., i, 54. Kaufmann, H. P., products of the action of the silent electric discharge on

acetylene, A., i, 117. benzoic acid as a disinfectant, A., i, 424. Kaufmann, W. von, and A. Lewite, the nature of solutions of starch in formalin, and the quantitative reconversion of formalin-starch into starch; the colour of iodine solutions, A., i, 312.

Kaufmann, Wilford E. See Harry N. Holmes.

Kay, Francis William. See Robert Robinson.

Kayser, Ed., production of ethyl alcohol

from algæ, A., i, 193. Kehrmann, Friedrich, Henri Goldstein,

and Peter Tschudi, nitro-derivatives of 5-diphenyldihydroacridine, A., i, 551.

carbazine dyes, a new class of quinoneimide derivatives, A., i, 552. Kehrmann, Friedrich, and Pauline Zybs,

amino-derivatives of N-methylphenazthionium, A., i, 222.
Keller, J. See Ernst Winterstein.

Keller, Rudolf, electrical characteristics

of pigment colloids, A., ii, 491. Kelley, George Leslie, F. B. Meyers, and C. B. Illingworth, estimation of uranium in alloy steels and ferro-uranium, A., ii, 248.

Kelley, George Leslie, J. A. Wiley, R. T. Bohn, and W. C. Wright, electrometric titration of vanadium; selective oxidation of vanadyl salts in presence of chromic salts, A., ii, 431.

Kemp, William Joel, obituary notice of. T., 427.

Kendall, E. C., isolation of the iodine compound which occurs in thyroid, A., i, 496.

the use of turpentine resin in turpentine as a foam breaker. A., ii.

use of coal as a substitute for talcum to induce rapid boiling, A., ii,

Kennedy, Cornelia, the forms of nitrogen in protein-free milk, A., i, 235.

Kerb, (Mme.) E. See Carl Neuberg.

Kern, J. See G. Hager.

Kern, John W. See Ebenezer Henry Archibald.

Kertess, Ernst, place and mode of origin of the acetone substances, A., i, 607.

Kertész, Paul. See Fritz Ullmann. Kessler, Etisabeth. See Martin Freund.

Keyes, Frederick G., and William A. Felsing, equation of state for liquids and vapours. I. Vapour phase of

ethyl ether, A., ii, 215.
Kidd, Franklin. See Walter Stiles.
Kidwell, C. H. See Frank Burnett Dains.

Kiliani, Heinrich, digitalis substances. XXXVIII. and XXXIX., A., i, 90, 214.

Killby, Leonard Gibbs. See John Stanley Arthur.

Kindermann, E. See Georg Schroeter. Kindler, Karl. See Paul Rabe.

King, Albert Theodore, the production of methyl ethyl ketone from n-butyl alcohol, T., 1404.

King, Albert Theodore. See also Confectionery Ingredients, Ltd.

King, Frances. See J. F. McClendon. King, George, degree of dispersion of colloids and its determination, A., ii,

King, Harold, the resolution of hyoscine and its components, tropic acid and oscine, T., 476.

the stereochemistry of hyoscine, T., 974.

King, H. H. See William Draper Harkins

King, J. T., new and rapid apparatus for electrochemical analyses, A., ii, 347.

Kirchhof, F., the relation between the L-series of X-ray spectra and the atomic weight, A., ii, 312.
Kita, Gen-Itsu, and Minoru Osumi, studies on ligase, A., i, 503.

Klaften, E., identification of bilirubin, A., ii, 308.

Klaften, M. See Alex. Skutetzky. Klaus, Franz, and Oskar Baudisch, transformation of arylhydroxylamines into aminophenols, A., i, 14.

Klein, Philipp, measurement of the short wave-length portion of the cerium arc spectrum in terms of the international normal, A., ii, 2.

Klemenc, Alfons, and Elisabeth Ekl, velocity of nitration of phenols in ethereal solution. II., A., i, 122.

Kling, André, and René Schmutz, characterisation and estimation carbonyl chloride, A., ii, 244. estimation of traces of carbonyl

chloride in air, A., ii, 244.

Klinger, R. See E. Herzfeld.

Klinz, Jos. See Hans Meerwein.

Kloppenburg, C. A. See Hans Rupe. Klut, Hartwig, estimation of free carbon

dioxide in water, A., ii, 297. necht, Edmund, and (Miss) Knecht, Hibbert, some constituents of French and American rosins, A., i, 338.

Knoevenagel, Emil, Wilhelm Mamontoff, Gustav Mechtersheimer, Paul Sehler, Adolf Stang, Rudolf Steinle, and Wilhelm Stötzner, citral series; condensation of citral with acetoacetic ester, A., i, 15.

Knoll & Co., preparation of a calcium tannate sparingly soluble in dilute

acids, A., i, 20.

Knox, Joseph, and Douglas M. Reid, the decomposition of nitrous acid, A., ii, 228.

Knox, Joseph, and (Miss) Marion Brock Richards, the basic properties of oxygen in organic acids and phenols; and the quadrivalency of oxygen, T., 508.

Knox, Joseph, and (Miss) Helen Reid Will, the basic properties of phen-anthraquinone, T., 850.

the solubility of silver acetate in acetic acid and of silver propionate in propionic acid, T., 853.

PhilipAdolph, $\mathbf{method}$ dihydrochloride preparing pure of diaminodihydroxyarsenobenzene [salvarsan], A., i, 183.

preparation of arsphenamine [salv-arsan]. A., i, 231.

Kober, Philip Adolph, and Walter S. Davis, simple method of making p-arsanilic acid, A., i, 182.

preparation of primary and secondary arsanilic acids, A., i, 229.

Koch, Alfred, and Alice Oelsner, decomposition of betaine by the bacteria of "guanol," a fertiliser prepared from molasses waste, A., i, 368.

Koch, Alfred. See also Alice Oelsner.

Koch, G. See Georg Schroeter.

Kögel, P. R., photosynthesis of formaldehyde and sugar, A., i, 471.

Köhler, Willy. See Konrad Schaefer.

Kölliker, Alfred, thallous oxide, A., ii. 288.

Kölln, Hermann. See Robert Behrend. Koelsch, Hermann, estimation of sulphates in the presence of iron, A., ii

König, J., separation of lead in metallic calcium and "lurgie" metal, A., ii, 247.

Koessler, Karl K., and Milton Th. Hanke, proteinogenous amines. I. Synthesis of  $\beta$ -iminazolylethylamine [histamine], A., i, 41.

V. The preproteinogenous amines. paration of p-hydroxyphenylethyl-(tyramine amine hydrochloride hydrochloride), A., i, 583.

proteinogenous amines. IV. The production of histamine from hist-IV. idine by Bacillus coli communis, A., i, 611.

Koessler, Karl K. See also Milton Th. Hanke.

Koetschet, J., and M. Beudet, [preparation of] acetic anhydride and paraldehyde from ethylidene diacetate, A. i, 569.

[preparation of] ethylidene diacetate,

A., i, 569.

Kofler, Ludwig, uzarin from Gomphocarpus root, A., i, 492.

Kohler, Elmer Peter, and Tenney L. Davis, the cyclopropane series, IV., A., i. 404.

Kohler, Elmer Peter, and H. F. Engelbrecht, the addition of nitromethane to unsaturated esters, A., i, 330. the cyclopropane series. VII. Nitro-

cyclopropanes, A., i, 582.

Kohler, Elmer Peter, and H. Gilman

the bromination and bromine derivatives of certain δ-ketonic esters, A., i,

Kohler, Elmer Peter, and W. N. Jones, the cyclopropane series. VI., A., i, 533.

Kohler, Elmer Peter, and L. L. Steele, the cyclopropane series. V., A., i, 530.

coloured condensation products from ketonic pyrazoline derivatives, A., i, 557.

Kohlschütter, Volkmar, graphitic carbon, A., ii, 151.

disperse aluminium hydroxide. A., ii, 156.

discharge electrolysis; electrical colloid syntheses, A., ii, 492.

Kohlschütter, Volkmar, and P. Haenni, graphitic carbon and graphitic acid, A., ii, 152.

Kohlschütter, Volkmar, and E. Vuilleumier, mechanism of cathodic metal

separation, A., ii, 9.

Kohlschütter, Volkmar, and G. Walther, lime mortars; solution and conversion of solid substances into colloids, A., ii, 342.

Kohlweiler, Emil, systematic valency theory and the explanation on this theory of complex compounds; ionogen and labile bonds, gaseous molecules, polymerisation and isomerisation.

Kokatnur, V. R., the influence of catalysts on the chlorination of hydrocarbons, A., i, 145.

Kokubu, Noboru. See Toshio Takamine. Kolkmeijer, N. H. See A. J. Bijl. Koller, J. P. See Lowis Monroe Dennis.

Koller, J. P. See-Lowis Monroe Dennis. Kolthoff, I. M., oxidation potential of ferri-ferrocyanide solution, A., i, 577.

complex ions, A., ii, 57.

the importance of electrical conductivity in analytical chemistry, A., ii. 74.

the significance of the electrical conductivity in the analysis of potable water. A. ii. 76

water, A., ii, 76.
estimation of copper by means of
potassium thiocyanate, potassium
iodide, and thiosulphate, A., ii, 80.

end-point in oxidation titrations determined by means of the potentiometer, A., ii, 196.

iodometric studies; the starch-iodine reaction, A., ii, 239.

the iodometric estimation of bromate (and iodate), A., ii, 240.

stability of sedium thiosulphate solutions, A., ii, 341.

estimation of ferrous iron by means of the oxidation potential, A., ii, 352.

reaction of thiosulphate with iodine, A., ii, 365.

the estimation of hydrogen peroxide and the conservation of hydrogen peroxide solutions, A., ii, 370.

the titration of iodides by means of conductivity measurements, A., ii, 370.

iodometric estimation of arsenic acid, A., ii, 427.

estimation of iodide, bromide, and chloride in presence of each other, A., ii, 472.

iodometric estimation of sulphurous acid and sulphites, A., ii, 473.

coloured indicator papers, A., ii, 518.

Kolthoff, I. M., reaction between arsenious oxide and iodine, A., ii, 522.

Kolthoff, I. M., and E. H. Vogelenzang, iodometric estimation of chromic acid, A., ii, 300.

gravimetric estimation of sulphate as barium sulphate, A., ii, 521.

estimation of sulphate as strontium sulphate, A., ii, 522.

Komatsu, Shigeru. See Claude S. Hudson and Phæbus A. Levene.

Komninos, Telemachos, new synthetic passage from aliphatic to aromatic compounds, A., i, 6.

Kon, George Armand Robert, and Jocelyn Field Thorpe, the formation and reactions of imino-compounds. XIX. The chemistry of the cyanoacetamide and Guareschi condensations, T., 686.

Kondo, Heisaburo, and Seitaro Yamaguchi, essential oil of Perilla citriodora, Makino, A., i, 492.
Kondo, S., effect of various aromatic

Kondo, S., effect of various aromatic substances on the blood vessels; comparison of the constitution and action of drugs, A., i, 423.

Kornfeld, Gertrud, interchange of bases in permutite, A., ii, 459.

Kossel, Walther, structure of the atomic nucleus and its tendency to disintegrate, A., ii, 405.

physical nature of valency, A., ii, 408.

Kossel, Walther, and A. Sommerfeld, principle of choice and the displacement law for series spectra, A., ii, 378

Kothe, Richard. See B. Heymann. Kowarsky, A., micro-estimation of sugar

in blood, A., ii, 354.

Kôzu, S., anorthite from Japan, A., ii,

Krahmer, Anna. See Wilhelm Traube. Krause, Erich, fluorides of organo-metallic compounds. I. Tin trialkyl fluorides and tin dialkyl difluorides, A., i, 9.

Krause, Hugo, β-hydroxytrimethylenediglycine, A., i, 67.

diglycine, A., i, 67.
a new method for the estimation of oxalic acid, A., ii, 203, 355.

Kremann, Robert, and Alois Auer, influence of substitution in the components on the equilibrium in binary solutions. XII. Binary solutions equilibria between acid amides and phenols and their derivatives, A., ii, 15

Kremann, Robert, and Wilhelm Csanyi, influence of substitution in the components on the equilibrium in binary solutions. VIII., A., ii, 456.

Kremann, Robert, and Georg Grasser, influence of substitution in the components on the equilibrium in binary VII. Binary solutions solutions. equilibria of a- and B-naphthylamine respectively with nitro-derivatives of benzene, A., ii, 455.

influence of substitution in the components on the equilibrium in binary solutions. IX. A comparative determination of the degree of dissociation of some additive compounds in the molten condition, A., ii, 456.

Kremann, Robert, and Offried Haas, influence of substitution in the components on the equilibrium in binary solutions. XIX. The binary systems of antipyrine with phenols and their derivatives, A., ii, 456.

influence of substitution in the components on the equilibrium in binary solutions. XX. The binary systems of acenaphthene with some nitroderivatives of benzene, A., ii, 457.

Kremann, Robert, and Rudolf Schadinger, influence of substitution in the components on the equilibrium in binary solutions. XVI. The binary systems of benzophenone and certain amines, A., ii, 143.

influence of substitution in the components on the equilibrium in binary solutions. XVII. Binary solutions equilibria of diphenylamine with phenols and their derivatives, A., ii, 275.

Kremann, Robert, and Norbert Schniderschitsch, solubility of carbon dioxide in solutions of chlorophyll, A., i. 544.

Kremann, Robert, and Wolfgang Strohschneider, influence of substitution in the components on the equilibrium in binary solutions. XIII. The solution equilibria of the three isomeric phenylenediamines with phenols and the dinitro-derivatives of benzene respec-

tively, A., ii, 54. Kremann, Robert, and Otto Wlk, influence of substitution in the components on the equilibrium in binary solutions. XVIII. Binary solutions equilibria between nitrosodimethylaniline and some amines, A., ii, 275.

influence of substitution in the components on the equilibrium in binary solutions. XXI. The binary systems of trimethylcarbinol with phenols and amines respectively, A., ii, 457.

influence of substitution in the components on the equilibrium in binary solutions. XXII. The binary systems triphenylcarbinol with phenols and amines respectively, A., ii, 458.

Kremann, Robert, and Ludwig Zechner, influence of substitution in the components on the equilibrium in binary XIV. Binary solution solutions. equilibria between pyrogallol and the aromatic amines or acid amides, A., ii, 142.

influence of substitution in the components on the equilibrium in binary solutions. XV. The binary systems of benzophenone with phenols and their derivatives, A., ii, 142.

Kremers, F. See Ludwig Claisen.

Kremers, H. C., and B. Smith Hopkins, rare earths. IX. Atomic weight of yttrium. III., A., ii, 466.

Krieble, Vernon K., and Autrey W. Mangum, estimation of sulphates in a concentrated electrolyte and the estimation of sulphur in foods, A., ii, 473.

Krizewsky, Jacob, and Eustace Ebenezer Turner, formation of diphenyl by the action of cupric salts on organo-metallic compounds of magnesium, T., 559.

Krok, Gustav, the blood sugar, A., i, 137.

Kruber, O. See Rudolf Weissgerber. Krüger, Friedrich, Otto Reinkober, and Hans Riegger, determination of the methane content of mine gases or of the concentration of a gas in a gaseous

mixture, A., ii, 301. Kruys, Marinus Johannes van't, modified Scheibler apparatus for the estimation of carbon dioxide, A., ii,

Kruyt, Hugo Rudolph, and A. E. van Arkel, velocity of coagulation, A., ii,

Kruyt, Hugo Rudolph, and Jac. van der Spek, heat of coagulation, A., ii, 318.

coagulation process [of colloids], A., ii, 498.

Kuber, J. See Alfred Wogrinz.

Kubota, Seiko. See John Jacob Abel. Kuhn, E. See Hans Hugo Pringsheim.

Kunze, Emil. See Adolf Grün.

Kunz-Krause, Hermann, and Rudoly Richter, conditions for obtaining pure sodium carbonate for standardising acid and applicability of crystallised oxalic acid in place of the anhydrous acid as a titration standard, A., ii, 423.

applicability of cuprammonium sulphate for the acidimetric estimation of alkaloids according to E. Falières,

A., ii, 436.

L.

Laar, Johannes Jacobus van, the course of the values of a and b for hydrogen at different temperatures and volumes. III. and IV., A., ii, 11. the heat of dissociation of diatomic

gases in relation to the increase in the value of  $\sqrt{a}$  of the dissociated atoms, A., ii, 97.

determination of molecular and atomic weights; the density of gases under normal conditions and critical constants, A., ii, 461.

Labat. See Desgrez.

Lacomblé, A. E., geometrical isomerism, A., i, 61.

the atom model of Rutherford and Bohr in chemistry, A., i, 377. valency theory, A., ii, 224.

Lacroix, Alfred, scapolite of gem quality from the pegmatites of Madagascar, A., ii, 420.

Lacroix, Alfred, and Arnaud Gramont, the presence of boron in some natural basic silicoaluminates, A., ii, 237.

La Forge, Frederick Burr, preparation of gulonolactone, A., i, 65.

thermochemical Lagerlöf, Daniel, studies; simplified formula for calculating the molecular latent heat of evaporation, A., ii, 95.

Laing, (Miss) Mary Evelyn. See James William McBain.

Laird, J. S., and T. C. Simpson, estimation of nitrous acid and nitrites, A., ii, 242.

Lamb, Alvin R., and John M. Evvard, the acid-base balance in animal nutrition. I. The effect of certain organic and mineral acids on the growth, well-being, and reproduction of swine, A., i, 185.

the acid-base balance in animal nutri-II. Metabolism studies on the effect of certain organic and mineral acids on swine, A., i, 185.

Lambert, Bertram. See Nevil Vincent Sidgwick.

Lampe, Victor, synthesis of curcumin, A., i, 30.

Lampe, Victor, and M. Godlewska, synthesis of pp'-dihydroxy and p-hydroxydicinnamoylmethane, A., i, 31.

Landau, Alexander. See Eugen Bam-

Landé, A., coupling of electron rings and optical activity of asymmetric molecules, A., ii, 21. series spectrum of helium, A., ii, 309.

Landé, A. See also M. Born. Lang, R. J. See John Cu See John Cunningham McLennan.

Lange, C., the starch-iodine reaction and its application in the colorimetric estimation of proteins in immunity reactions, A., ii, 438.

Lange, Norbert A. See William Jay

Hale.

Lange, P. W. de, the formation of phenol in the action of sodium methoxide on the higher chlorobenzenes, A., i, 122.

Langen, Amélie, calculation of the chemical constants of polyatomic gases, A., ii, 183.

Langhans, Alfred, action of halogenates and hypohalogenites on mercury fulminate, A., i, 259.

analysis of mercury fulminate, A., ii,

definition of the terms: explosion,

explosive action, thermite, A., ii, 327. Langhans, Alfred. See also H. Kast.

Langlois, G., a new synthesis of styryl methyl ketone, A., i, 332.

Langmuir, Irving, chemical reactions at low pressures. IV. The clean-up [complete removal] of nitrogen by a heated molybdenum filament, A., ii,

arrangement of electrons in atoms and molecules, A., ii, 328.

isomorphism, isosterism, valence, A., ii, 506. co-

angstroth, Lovell, Folin's direct nesslerisation method for the estima-Langstroth, Lovell, tion of nitrogen, A., ii, 77.
Lapicque, L., and E. Barbé, chlorine

index as a comparative measure of the richness of soils in humus, A., i, 116.

Lapworth, Arthur, and Levinstein, Ltd., preparation of N-monoalkyl derivatives of certain aromatic compounds, A., i, 527.

Lapworth, Arthur, and (Mrs.) Leonore Kletz Pearson, the direct replacement of glycerol in fats by higher polyhydric alcohols. I. Interaction of olein and stearin with mannitol, A., i, 570.

Lapworth, Arthur, and Frank Albert

Royle, capsaicin. I., T., 1109.

Lasala, E., indirect electrolytic estimation of anions without platinum electrodes, A., ii, 239.

Lasausse, Ed., estimation of small quantities of alkali iodides in the presence of bromides and nitrites, A., ii, 520.

estimation of iodine in cuprous iodide, A., ii, 520.

Lasch, Walter, oxidation procedure in the human organism, A., i, 609.

Laski, Gerda, characteristic ultra-red frequencies of diatomic Bohr gas molecules and the specific heat at high temperatures, A., ii, 406.

Laurin, Ingvar. See Hans von Euler. Lautenschläger, Ludwig, diazo-reaction of morphine, A., i, 344.

preparation and physiological action of some derivatives of meconic acid, A., i, 609.

Lavaux, James, phenomena of electrolytic luminescence shown by certain metallic

anodes. I., A., ii, 359.

Lawrance, Walter Albert.

Bishop Tingle.

Leavell, Gladys. See See John

M. Sidney Cadwell.

Leberle, Hans. See Friedrich Boas.

Lebert, M. See H. Colin.

Le Blanc, Max K. Andrich, and W. Kangro, photochemical change in the system SO<sub>2</sub>Cl<sub>2</sub> SO<sub>2</sub> + Cl<sub>2</sub> under the influence of light rays of definite wavelength, A., ii, 442.

Lecomte, Octave, chlorimetry, A., ii, 76. Lederle, P. See F. Mach.

Lee, O. Ivan, and Edgar Theodore

Wherry, manganotantalite Amelia, Virginia, A., ii, 369. from Lee, T. H., two new zircon minerals-

orvillite and oliveiraite, A., ii, 115. Lee, T. H., and Luiz Flores de Moraes,

ferrazite, a new associate of the diamond, A., ii, 517.

Leeuwen, W. Storm van, nicotine content of the smoke of heavy, light, and "nicotine-free" cigars, A., i, 130.

Léger, Eugène, the a- and \$-hydroxydihydrocinchonines and their rôle in the production of certain isomerides of cinchonine, A., i, 170. cinchonidine, A., i, 451.

δ-cinchonine and its isomerides; its relations to niquine, A., i, 597.

Legg, Albert T., the preparation of silica jelly for use as a bacteriological

medium, A., i, 463.

Le Heux, J. W., estimation of ethyl ether in blood, A., ii, 250.

Lehmann, Franz. See Erwin Rupp. Lehmann, Otto, ionic migration in liquid crystals of hydrated ammonium oleate, A., ii, 9.

relationship between mechanical and chemical rotation and the structure of liquid crystals, A., ii, 256.

Lehmstedt, K., freezing-point curves of mixtures of nitro- and dinitro-benzene, A., i, 389.

Leibbrandt, Friedrich. See Kurt Hess.

Leichtentritt, Bruno, secondary action of arsenic and salicylic acid preparations on the normal stomach, A., i,

Leide, A. B. See Manne Siegbahn. Leitch, (Miss) Grace Cumming. Walter Norman Haworth.

Leitmeier, H., the behaviour of some alkali alumino-silicates at high temperatures, A., ii, 157.

Lely, D. See  $\hat{L}$ . Hamburger.

Lemmermann, Otto, Albert Einecke, and Ludwig Fresenius, determination of the efficacy of the soil feeding stuffs, phosphoric acid and potash, by culture experiments, and determination of their relative solubility by acids, A., i,

Lemoigne, M. See Pierre Mazé. Le Naour, F., estimation of tin, A., ii,

Lendenfeld, Paul R. von. See Hans Meyer.

Leo, H., and Eberhard Rimbach, solubility of camphor in water, A., i, 492. Leonard, Alfred Godfrey Gordon, and P. Whelan, quantitative spectra of lithium, rubidium, cæsium, and gold, A., ii, 89.

Lepape, Adolphe. See Victor Crémieu, and Charles Moureu.

Leroux, Désiré. See Lucien Leroux. Leroux, Henri, melting point of pure

phenol, A., i, 482. Leroux, Lucien, and Désiré Leroux.

mineral matter in plants; the ashes of some roots and tubers, A., i, 563. Lespieau, Robert, cryoscopy in acetylene

tetrabromide, A., ii, 316.

Lester, O. C., the radioactive properties of the mineral springs of Colorado, A., ii, 6.

Leuchs, Hermann, strychnine alkaloids. XXIV. Cause of the violet colour reaction of cacotheline and of nitrocompounds of the brucine series allied to it, A., i, 35.

Leulier, Albert, preparation of soluble starch, A., i, 120.

Levaillant, R., and Louis Jacques Simon, action of chlorosulphonic acid on methyl hydrogen sulphate, A., i,

action of chlorosulphonic acid on methyl sulphate; preparation of methyl chlorosulphonate, A., i, 431.

Levene, Phabus A., epichitosamine and epichitose, A., i, 475.

eytidine-phosphoric acid, A., i, 504. Levene, Phobus A., and Shigeru Komatsu, lipoids of the heart muscle, A., i, 466.

Levene, Phæbus A., and Shigeru Komatsu, kephalin. VI. The bearing of cuorin on the structure of kephalin, A., i, 466.

Levene, Phæbus A., and Iwao Matsuo, d-chondrosamino- and d-chitosaminoheptonic acids, A., i, 476.

Levi, A. See Paul Nicolardot.

Levi, Augusto, index of refraction and molecular refraction of aqueous solutions of nicotine, A., ii, 377.

the molecular heat of binary metallic alloys, A., ii, 389.

Levinstein, Ltd. See Arthur Lapworth. Lewis, Robert Illtyd. See Thomas Campbell James.

Lewis, Samuel Judd, a new sector spectrophotometer, T., 312.

Lewis, William Cudmore McCullagh, studies in catalysis. X. The applicability of the radiation hypothesis to heterogeneous reactions, T., 182.

studies in catalysis. Chatelier-Braun principle from the point of view of the radiation hypothesis, T., 710.

studies in catalysis. XII. Catalytic criteria and the radiation hypothesis, T., 1360.

See W. von Kaufmann, and Lewite, A. Carl Neuberg.

Ley, Heinrich, the ethylene chromophore, A., ii, 40.

ultraviolet light absorption of un-

saturated compounds, A., ii, 178. Leysieffer, G., relations between the viscosity of cellulose nitrate solutions and the nitration process, with special reference to wood cellulose, A., i, 149.

Liang, Chuan Ling. See James Henri Walton.

Lichtenstadt, L. See Georg Schroeter. **Lieb,** Hans, condensation of aromatic orthodiamines with phthalic anhydride, A., i, 174.

Lieb, Hans. See also Alois Zinke.

Liebers, use of methylene-blue for the detection of sugar in urine, A., ii,

Liebert, F., stable solution of silver nitrate, A., ii, 107. Liebert, G., effect of an electric field on

the ultraviolet lines of helium, A., ii, 38.

a new helium series under the influence of an electric field, A., ii, 38.

Liebert, G. See also Johannes Stark. Lier-Wensink, W. D. van. See J. V.

Dubsky. See H. Colin. Liévin. O.

Lifschitz, Israel, chemiluminescence, A., ii, 4.

Lifschitz, Israel, and Georg Beck, internally complex salts and conjugated salts of alkali metals. II., A., ii, 182.

Lifschütz, Isaac, hydroxycholesterol, A.,

Liljenroth, F. G., starting and stability phenomena of the oxidation of ammonia and similar reactions, A., ii, 23.

Lillie, Ralph Stayner, and E. N. Johnston, precipitation structures simulating organic growth. II. Physicochemical analysis of growth and heredity, A., i, 606.

Lind, Samuel Colville, chemical action produced by radium emanation.

I. Combination of hydrogen and

oxygen, A., ii, 210.

chemical action produced by radium emanation. II. Chemical effect of recoil atoms, A., ii, 210.

Lindemann, F. A., vapour pressure and affinity of isotopes, A., ii, 390.

Lindemann, F. A., and Francis William Aston, the possibility of separating isotopes, A., ii, 209.

Linhart, George Augustus, applicability of the precipitated silver-silver chloride electrode to the measurement of the activity of hydrochloric acid in extremely dilute solution, A., ii, 444.

Lipkin, I. J. See W. Ramsden.

Lipman, Charles Bernard, and W. F. Gericke, copper and zinc as antagonistic agents to the "alkali" salts in soil, A., i, 244.

Lippmann, Edmund Oskar von, occurrence of vanillin, A., i, 373.

the alchemists known as Hollandus, A., ii, 331.

Ljungdahl, Malte, some iodometric estimations; preliminary studies on a micro-method for the estimation of acetone, A., ii, 529.

a micro-method for the estimation of the total acetone in blood, A., ii,

**Lloyd**, Francis E., colloidal properties of protoplasm; imbibition in relation to growth, A., i, 111.

Loeb, Jacques, amphoteric colloids. II. Volumetric analysis of ion-protein compounds; the significance of the isoelectric point for the purification of amphoteric colloids, A., i, 295.

amphoteric colloids. III. Chemical basis of the influence of acid on the physical properties of gelatin, A. i, 295.

amphoteric colloids. IV. The influence of the valency of cations on the physical properties of gelatin, A., i, 296.

Loeb, Jacques, amphoteric colloids. V. The influence of the valency of anions on the physical properties of

gelatin, A., i, 418. amphoteric colloids. I. Chemical influence of hydrogen-ion concen-

tration, A., ii, 14.

the influence of electrolytes on the electrification and the rate of diffusion of water through collodion membranes, A., ii, 399. electrification of water and osmotic pressure, A., ii, 497.

Löffler, Wilhelm, and Karl Spire, hydrogen and hydroxyl-ion equilibrium in I. and II., A., i, 561; ii, solutions. 497.

Löfman, N., hydrolysis of some metallic acetates, A., ii, 402.

Löwenberg, Bruno. See Siegmund Gabriel.

Loewenthal, Else. See Arthur Rosen-

heim. Loisel, P., the radioactivity of the water from the principal spring at Bagnolesde-l'Orne and its variations, A., ii,

Lombroso, Ugo, and Ludovico Paterni, metabolism of dextrose in surviving VII. Action of muscular tissue of the dog (during feeding and fasting) on dextrose circulating in it and on the glycogen contained in it, A., i, 563.

Loon, Chr. van. See Jacob Böeseken. Loos, Milly. See FriearichHahn.

Lorenz, Richard, the theory of electrolytic ions. IX. Space-filling and mobility of univalent organic ions, A., ii, 212.

the theory of electrolytic ions. X. The conductivity of multi-valent and multi-stage electrolytes, A., ii, 262.

an explanation of space-filling numbers, A., ii, 264.

Loriette, P. See M. Marqueyrol.

Loring, Frederick Henry, is the electrical conductivity of the elements conditioned by the presence of isotopes? A., ii, 313, 384, 491.

Lowry, Thomas Martin, and Harold Helling Abram, the rotatory dispersive power of organic compounds. IX. Simple rotatory dispersion in the terpene series, T., 300.

Lowry, Thomas Martin. See also Regi-

nald George Early.

Lowy, Alexander, modified graphic formulæ for organic cyclic compounds, A., i, 389.

Lubs, Herbert A., p-cymene. II. Utilisation of cymene for the preparation of photographic developers, A., i, 398.

Lubsen, C. A., the estimation of the nuclein content of yeast, A., ii, 124.

Lucchesi, F. See Italo Bellucci. Luce, Émile. See Armand Valeur.

Lück, E., catalytic action of hydrogen peroxide on potassium ferro- and ferri-

cyanides, A., i, 389. Lüdecke, K. See Wilhelm Connstein. Lüers, Heinrich, identity of hordein and bynin, A., i, 603.

Lüft, K. See Alfred Heiduschka. Lumsden, John Scott, criteria of the degree of purity of commercial toluene, T. 1366.

Lund, Carl H., and Louis Elsberg Wise, intermediates used in the preparation of photosensitising dyes. II. Quarternary haloids, A., i, 415.

Lund, Carl H. See also Louis Elsberg Wise.

Lungo, C. del, movement of the ions during electrolysis, A., ii, 213.

Lunn, Arthur C., formulæ concerning surface tension, A., ii, 220.

Lupton, Hartley. See Edgar Newbery. Lupton, Sydney, obituary notice of, T., 430.

Luros, G. O. See A. D. Emmett. Lusk, Graham. See H. V. Atkinson. Lynde, C. J., an electrical method of determining the lime requirement of

soils, A., ii, 376. Lynn, E. V., optically active pinene nitrosochloride, and synthetic active pinene, A., i, 212.

a new reaction of paraffin hydrocarbons, A., i, 245.

# M.

Maass, Otto, automatic variation of gas pressure and its application to a vacuum pump, circulation of gases [and] magnetic stirrer, A., ii. 104.

Maass, Otto, and J. Russell, an accurate method for measuring the density of

gases, A., ii, 47.

MacArthur, C. G., a method of tissue analysis; applied to the posterior and anterior lobes of cattle pituitaries, A., ii, 48**3**.

McArthur, Donald Neil, and Alfred Walter Stewart, a new photographic phenomenon, T., 973.

McBain, James William, theories of occlusion; the sorption of iodine by carbon, A., ii, 449.

McBain, James William, and James Kam, the effect of salts on the vapour pressure and degree of dissociation of acetic acid in solution; an experi-mental refutation of the hypothesis that neutral salts increase the dissociation constants of weak acids and bases, T., 1332.

McBain, James William, (Miss) Mary Evelyn Laing, and Alan Francis Titley, colloidal electrolytes; soap

solutions as a type T., 1279.

McBain, James William, and (Miss) Millicent Taylor, the degree of hydration of the particles which form the structural basis of soap curd, determined in experiments on sorption and salting out, T., 1300.

McCance, Andrew, balanced reactions in steel manufacture, A., ii, 450.

McCaughey, William J., copiapite in

coal, A., ii, 110.
McClendon, J. F., L. von Meysenbug, O. J. Engstrand, and Frances King, effect of diet on the alkaline reserve of the blood, A., i, 461.

McClendon, J. F., and H. J. Prender-

gast, ultramicroscopy of egg-albumin,

Ā., i, 459.

McCollum, Elmer Verner, Nina Simmonds, and H. T. Parsons, dietary properties of the pea (Vicia sativa), A., i, 186.

McCool, M. M. See George J. Bouyoucos.

McCoy, Herbert Newby, and G. H.

Cartledge, gamma ray activity of thorium-D., A., ii, 89.

McCrosky, Carl R., oxidising action of

potassium dichromate as compared with that of pure iodine, A., ii, 31.

Macdonald, David Baird, and Jackson Calvert, improvements in the manufacture of nitrophenols, A., i, 325.

McGuigan, Hugh, the action of ptyalin, A., i, 560.

McGuire, Grace. See Kaufman George Falk.

Mach, F., and P. Lederle, filter for use in the estimation of crude fibre, etc., A., ii, 303.

McHargue, James S., effect of certain compounds of barium and strontium on the growth of plants, A., i, 303.

effect of manganese on the growth of wheat; a source of manganese for agricultural purposes, A., i, 375. a new form of distilling bulb, A., ii, 360.

Macht, David I., pharmacology of the ureter. VI. Action of some optical isomerides, A., i, 299.

MacInnes, Duncan A., activities of the ions of strong electrolytes, A., ii, 385.

MacInnes, Duncan A., and Leon Adler, hydrogen overvoltage, A., ii, 131.

McIntosh, Douglas, electrolytic precipitation of zinc, A., ii, 45.

McKenzie, Alexander, and John Kerfoot Wood, the isomeric tropic acids, T.,

McKenzie, Alexander, and Henry Wren, catalytic racemisation of ethyl lmandelate, T., 602.

William MacKenzie, Anna.See Crowell Bray.

Maclean, Hugh, estimation of sugar in blood, A., ii, 434.

McLean, Stuart, the adsorption of helium

by charcoal, A., ii, 319. McLennan, John Cunningham of spectra, A., ii, 1.

McLennan, John Cunningham, D. S. Ainslie, and D. S. Fuller, vacuum arc spectra of various elements in the extreme ultraviolet, A., ii, 177.

McLennan, John Cunningham, and H. J. C. Ireton, fundamental frequencies in the spectra of various

elements, A., ii, 1. McLennan, John Cunningham, and R. J. Lang, investigation of extreme ultraviolet spectra, with a vacuum grating spectrograph, A., ii, 125.

McLennan, John Cunningham, J. F. T. Young, ultraviolet spectre of magnesium and selenium, A., ii, 2.

absorption spectra and the ionisation potentials of calcium, strontium,

and barium, A., ii, 127.

McLennan, John Cunningham. See also John Satterly.

Macleod, John James Rickard, simplified gas analysis; burette without stopcocks for gas analysis, A., ii, 167.

Macri, V., reducing action of manganous oxide, A., ii, 467.

Maddalena, L. See U. Cattaneo.

Mährlein, Franz. See Wilhelm Man-

Maggi, H., the relationship between diastase, peroxydase, and catalase, A.,

Magnus, Alfred, simple efficient vacuum pump for laboratory use, A., ii, 332.

Magnus, Hans. See Hans Hugo Pringsheim.

Maignon, F., the mechanism of the action of fats in the utilisation and assimilation of proteins, A., i, 185, 233.

Mailhe, Alphonse, catalytic hydrogenation of Schiff's bases, A., i, 395.

Mailhe, Alphonse. See also Paul Sabatier.

Maillard, L. C., origin and signifi-cance of acetoacetic acid, A., i,

estimation of arsenic in volatile cacodyl compounds, A., ii, 243.

Maisch, O. See Alexander Gutbier.

Malaguti, P. See Alfredo Terni.

Malarski, Tadensz, influence of filtration on hydrosols, A., ii, 13.

Malherbe, D. F. du Toit, nitration of tert.-butylbenzene, A., i, 261.

Malisoff, William, and Gustav Egloff, methane, A., i, 61. ethylene, A., i, 246.

Malle, Hans. See Rudolf Wegscheider. Mallman, de, the systems chlorine, hypochlorous acid, sodium hypochlorite, A., ii, 280.

Malowan, Siegfried Laurens, determination of melting points by means of electric heating, A., ii, 135.

Mamontoff, Wilhelm. See Emil Knoevenagel.

Manchot, Wilhelm, and Franz Mährlein, constitution of the product of the action of acetylene on mercuric chloride, A., i, 145.

Mandal, Hj., alkylaminochromi-compounds. III., A., i, 257.
 Mangum, Autrey W. See Vernon K.

Krieble.

Mannich, Carl, polymerisation of formaldehyde by alkalis, A., i, 196.

adsorption of the glucosides of digitalis leaves, A., i, 277.

Mannich, Carl, and B. Kather, con-

densation products from amine salts, formaldehyde, and antipyrine, A., i,

Manning, Rodger James, and Maximilian Nierenstein, the tannin of the Canahemlock (Tsuga canadensis, Carr.), T., 662.

Maquenne,  $L\acute{e}on$ , and Em. Demoussy, a very sensitive reaction of copper; application to the analysis of ashes and of arable soils, A., ii, 170.

Marcelin, René, structure of crystals in very thin laminæ; new experi-mental determination of molecular dimensions, A., ii, 139.

Marcus, Joseph K. See Marston Taylor

Marcussen, S., and Svend Hansen, estimation of urobilin in urine, A., ii, 124.

Mariam, Th. See Georg Schroeter. Marie, C., R. Marquis, and Birckenstock, the electrolytic reduction of phenylacetic acid, A., i, 529.

Mariller, C., thermodynamics fractional distillation, A., ii, 184.

Marinot, A., unification of methods for the analysis of cast iron and steel, A.,

Marqueyrol, M., and P. Loriette, new method of preparation of some polynitro-aromatic compounds, A.,

preparation of 2:4-dinitrophenol by direct nitration of phenol, A., i, 439.

Marquina, M. See Enriqu Marquis, R. See C. Marie. See Enrique Moles.

Marshall, Charles Robertshaw, some conditions influencing the reaction velocity of sodium nitrite on blood, A., i, 605.

mode of action of metal sols, A., i, 613.

Martineau, George, obituary notice of, T., 434.

Martinet, J., the mobility of hydrogen atoms in organic molecules; action of phenylhydrazine on dioxindoles, A., i, 221.

syntheses in the indole series; homologues of dioxindole and isatin, A., i, 281.

the indirubins, A., i, 457.

Marvel, C. S., and Oliver Kamm, organic chemical reagents. III. \$\beta\$-Phenyl-"cupferron and hydroxylamine (ammonium salt of nitrosophenylhydroxylamine), A., i, 157.

Maryel, C. S. See also Roger Adams. Mary, Albert, and Alexandre Mary, inversion of sucrose by colloidal silicic acid, A., ii, 14.

Mary, Alexandre. See Albert Mary. Mashimo, Toshikazu, reversal of spectrum lines produced by a spark under water, A., ii, 125.

Mason, Walter, and Richard Vernon Wheeler, the propagation of flame in mixtures of acetylene and air, T., 578.

Mathers, Frank Curry. See W. L. Argo.

Mathieu. See Louis Hackspill.

Matievic, Anton. See Anton Skrabal. Matsui, Motooki, and Eitaro Ashida, electrolytic reaction of organic sulphur compounds. I. Thioamide group, A., i, 438.

Matsui, Motooki, and Tadasu Nakazawa. electrolytic estimation of nickel and cobalt, A., ii, 429.

Matsuo, Iwao. See Phabus A. Levene and Treat Baldwin Johnson.

Mattei, Ch., use of certain reagents for the detection of emetine in human urine, A., ii, 307.

Matthes, B. F. H. J. See Arnold Frederik Holleman.

Matthews, Francis Edward. See Confectionery Ingredients, Ltd.

Mangé, Lucien, rapid estimation of nitric acid, A., ii, 425.

Mauguin, Ch., and Louis Jacques Simon, cyanogen chloride, A., i, 477.

preparation of cyanogen chloride by Held's method, A., i, 526.

action of concentrated sulphuric acid on carbon tetrachloride, A., ii, 341.

Mauguin, Ch. See also Victor Grignard. Mauthner, Ferdinand. See J. Pfeiffer. Maxim, M. See Ernst Winterstein.

Maxted, Edward Bradford, the synthesis of ammonia at high temperatures. III., T., 113.

the influence of hydrogen sulphide on the occlusion of hydrogen by palladium, T., 1050.

Maxwell, L. G. See John R. Cain.

Mayer, Erwin W. See Richard Willstätter.

Mayer, Fritz, and Frank Albert English, Pschorr's phenanthrene synthesis. II., A., i, 158.

Mayer, Fritz, and Trudi Oppenheimer, naphthylacetic acids. III. 1-Nitro-β-naphthylpyruvic acid and 1-nitro-β-naphthylacetic acid, A., i, 17.

Mayer, Otto, detection of acetone in urine, A., ii, 304.

Maynard, L. A., casein, A., i, 359.

Mayrhofer, Adolf See Richard Wasicky.

Mazé, Pierre, a purely mineral solution capable of assuring the complete evolution of maize cultivated and sheltered from bacteria, A., i, 304.

oxidation of lactic acid by bacteria with formation of pyruvic acid and ketonic substances, A., i, 467.

Mazé, Pierre, Vila, and M. Lemoigne, action of cyanamide and of dicyanodiamide on the development of maize, A., i, 614.

Mazumder, Jatindra Kumar. See Bawa Kartar Singh.

Mazza, Aurelio F. See Atilio A. Bado.

Meacham, M. R. See Charles L. Brightman.

Mechtersheimer, Gustav. See Emil Knoevenagel.

Meerburg, Pieter Adriaan, titration of acids by the conductivity method, A., ii, 518.

Meerwein, Hans, Hans Dott, and Jos. Klinz, αε-dialdehydes and αε-keto-aldehydes and their conversion into δ-lactones; constitution and method of formation of amaric acid, diethyl-carbobenzonic acid and allied compounds, A., i, 21.

Meerwein, Hans, and Cl. Fleischhauer, pinacolin transformations. IV. Ring changes produced by the elimination of water from alicyclic alcohols, A., i, 162.

Mees, Charles Edward Kenneth, and Hans Thacher Clarke, a new yellow dye and light filters made from it, A., i, 168.

Meggers, W. F., wave-length measurement in spectra from 5600 Å. to 9600 Å., A., ii, 253.

Meier, Klothilde. See Hermann Straub.

Meighan, M. H. See Vernon C. Allison, and C. W. Jones.

Meigs, Edward B., estimation of phosphorus by the nephelometric method, A., ii, 77.

Meijer, G. See Frans Eppo Cornelis Scheffer.

Meillière [Jean Pierre] Gedeon, estimation of sulphuric acid and sulphates, A., ii, 295.

Meisenheimer, Jakob, the nitrogenous constituents of yeast, A., i, 370.

Meisenheimer, Jakob, and Erich Hesse, the reduction of 2:3-, 3:4-, and 2:5dinitrotoluenes, A., i, 389.

Meissner, K. W., spectrum of neon, A., ii, 206.

Meitner, Lisc. See Otto Hahn.

Melander, Karl H. A., sulphite liquors, A., i, 473.

Melander, Linda. See S. V. Hintikka.

Mellanby, John, the composition of starch. I. Precipitation by colloidal iron. II. Precipitation by iodine and electrolytes, A., i, 311.

Mendel, Lafayette Benedict. See Thomas Burr Osborne.

Menzies, Alan Wilfrid Cranbrook, vapour pressure of tetranitromethane, A., i, 513.

Merkatz, Adelheid Magnus von, pyrimidines, A., i, 355.

Merkatz, Adelheid Magnus von. See also Hans Hugo Pringsheim.

Merkel, (Frl.) Paula. See Otto Fischer. Merker, Harvey M. See Lewis Davis.

Merrill, E. C., and Clare Olin Ewing, laboratory apparatus for rapid evaporation, A., ii, 189 Merton, Thomas Ralph, an experiment relating to atomic orientation, A., ii, 453. Merwin, Herbert Eugene, crystallography

of ammonium picrate and of potassium

trithionate, A., i, 528.

Merwin, Herbert Eugene. See also John B. Ferguson, and Eugen Posnjak.

Mestrezat, W., estimation of free alkali or alkali carbonate alone or in the presence of alkali hypochlorite, A., ii, 427.

Meunier, J., the modality of reactions and chemical dynamics; application to the phenomena of electrolysis and

spectroscopy, A., ii, 132.

Mewes, Rudolf, investigation of Poisson's ratio by means of the gaseous volume and specific heat at low temperatures, A., ii, 319.

gaseous volumes at low temperatures,

A., ii, 319.

Mewes, Rudolf, and Ludwig Neumann, investigation of Mewes' law of the relation between the volume of a gas and the temperature, A., ii, 493.

Meyer, André, some derivatives of isatin,

A., i, 99.

Meyer, Arthur, relationship between the formation of proteins and acids in leaves, A., i, 240.

Meyer, Egon. See Wilhelm Schlenk. Meyer, Guido, and Hermann Suida, anilinoquinones from benzoquinone and the nitroanilines, A., i, 82.

Meyer, Hans, Alice Hofmann, and Paul R. von Lendenfeld, pyro-condensations in the aromatic series, A., i, 580.

Meyer, Julius, colloidal selenium, A., ii, 228.

Meyer, Richard, and Wilhelm Meyer, pyrogenic acetylene condensations. V., A., i, 72.

the melting points of mixtures of organic compounds, A., ii, 359.

Meyer, Stefan, the question of the existence of isotopes with the same atomic weight; the end products of the thorium disintegration series, A., ii, 384.

Meyer, Wilhelm. See Richard Meyer. Meyerhof, Otto, kinetics of the cell-free fermentation [by zymase], A., i, 57.

Meyers, F. B. See George Leslie Kelley. Meysenbug, L. von. See J. F. Mc-Clendon.

Michael, Arthur, configuration organic compounds and their relation to chemical and physical properties. II., A., i, 4.

the relations between the chemical structures of carbonyl derivatives and their reactivities toward salts of semicarbazide, A., i, 253.

Michaelis, Leonor, and Peter Rona, extension of the theory of isoelectric point; competitive action of other ions with H'- and OH'-ions in the precipitation of denatured albumins, A., i, 358.

theory of adsorption of electrolytes; the adsorption of organic dyes, A.,

ii, 496.

Michaelis, Leonor. See also Peter Rona. Michaelis, P., [pure] calcium hypochlorite to replace Dakin's solution, A., ii, 155.

Michaud, Félix, and Ahmed Balloul, new process for measuring the specific inductive power of liquids, A., ii, 314.

Michel, Eduard. See Fritz Ephraim. Middendorp, J. A., hydroxymethylfurfuraldehyde, A., i, 129.

Miescher, Karl. See Hermann Staudinger.

Mignonac, Georges, synthesis of ketimines by catalytic methods, A., i,

Mikeska, Louis A., J. K. Stewart, and Louis Elsberg Wise, intermediates used in the preparation of photosensitising dyes. I. Quinoline bases, A., i, 415.

Mikeska, Louis A. See also Treat Baldwin Johnson.

Milbauer, Jaroslav, estimation of active oxygen in sodium peroxide, A., ii, 31.

Milbauer, Jaroslav, and Antonin Nemec, action of sulphuric acid on certain organic compounds of homologous and isomeric series, A., ii, 362.

Milbauer, Jaroslav, and Ivan Setlik, electrolytic separation of lead from chromium and analysis of chrome yellow and similar pigments, A., ii, 372.

Miller, H. G., relation of sulphates to plant growth and composition, A., i,

Milroy, James Alexander, some metallic compounds of hæmatoporphyrin, A., i, 178.

Milroy, Thomas Hugh, and Joseph Francis Donegan, the rôle of the plasma proteins in diffusion, A., i, **510.** 

Minot, Anna S. See Willey Denis.

Mirande, Marcel, presence of hydrogen cyanide in a fern, Cystopteris alpina, A., i, 113.

the microchemical reactions and localisation of the alkaloid of Isopyrum thalictroides, L., A., i, 192.

Mises, R. von, whole number atomic weights and related questions, A., ii, 20.

Misslin, Emil, and Adolf Bau, derivatives of 3:5-dinitrophenoxazine, A., i,

Mitchell, H. H., influence of protein feeding on the concentration of amino-acids and their nitrogenous metabolites in the tissues, A., i,

Mitscherlich, Eilhard Alfred, influence of two different nutriments on the yield of crops, A., i, 143.

Mitscherlich, Eilhard Alfred, S. von Saucken, and F. Iffland, experiments with various nitrogenous fertilisers, A., i, 143.

Mittag, Ernst. See Daniel Vorländer. Mitter, Haraparbutty Kumar. Rasik Lal Datta.

Mitter, Prafulla Chandra, and Jnanendra Nath Sen, action of phenylhydrazine on phthalaldehydic and phthalonic acids; phenyl-hydrazo-and azo-phthalide, T., 1145.

Moellendorff, Wilhelm von, penetration of neutral salts into [animal] cells, A., i, 105.

Möller, Elof, the optically active αα'-dimethylglutaric acids, A., i, 383.

Moeller, W., crystallisation phenomena in formaldehyde-gelatin jellies, A., ii,

Mörner, Carl Th., compounds derived from proteins by energetic treatment with nitric acid. VII., A., i, 101.

Moesveld, A. L. T. See Ernst Cohen. Mohler, Fred L. See Paul D. Foote.

Mohr, Ernst, Baeyer's strain theory and the structure of the diamond, A., ii, 229.

derivation of the law of even atomic numbers, A., ii, 363.

Moraes, Luiz Flores de. See T. H.

Moir, James, colour and chemical con-III. Derivatives of the stitution. unknown op-phenolphthalein, A., i,

spectrum of the ruby and emerald. IV. Spectrum phenomena in the chromium compounds, A., ii, 41.

errors in the analysis of chrome ironstone [chromite], and a new process, A., ii, 201.

Moles, Enrique, atomic weights in 1917, A., ii, 57.

thermal decomposition of certain inorganic trinitrides, A., ii, 192.

Moles, Enrique, and M. Marquina, the aristols and the quantitative estimation of thymol, A., i, 270.

Moles, Enrique. See also F. González.

Molisch, Hans, microchemistry of plants. X. Siliceous bodies in the epidermis of Campelia zanonia, Rich. XI. Crystalline carotin in the cup of

Narcissus poëticus, A., i, 113. the microchemical detection and the distribution of soluble oxalates in the vegetable kingdom, A., i, 191.

microchemistry of plants. XII. Large siliceous bodies in the leaf of XIII. Behaviour Arundo donax. of cystolites towards salts of silver and other metals, A., i, 242.

Moll, W. J. H., and Leonard Salomon Ornstein, liquid crystals. III. Melting and congelation phenomena with p-azoxyanisole, A., ii, 101.

Molliard, Marin, influence of certain conditions on the comparative consumption of dextrose and lævulose by Sterigmatocystis nigra, starting from sucrose, A., i, 108.

production of glycine by Isaria densa, **A.,** i, 113.

production of citric acid by Sterigmatocystis nigra [Aspergillus niger], A., i, 189.

ovalbumin constitutes a complete food for Isaria densa, A., i, 192.

Momoya, Kanjiro, B-homochelidonine, A., i, 450.

Mond, Robert Ludwig, and Christian Heberlein, the chemistry of Burgundy mixtures, T., 908.

Monroe, K. P., preparation of xylose from maize cobs, A., i, 386.

Monroe, K. P. See also Claude S. Hudson.

Montagne, Pieter J., acetylation of p-iodoaniline by acetic anhydride, A., i, 12.

Montanari, C., action of stimulants on

nitrifying bacteria, A., i, 139.

Moore, R. W., method of growing large crystals from solution, A., ii, 398.

Moore, William C., emulsification of water and of ammonium chloride solutions by means of lamp black, A., ii, 324. Morel, H. See C. Delezenne.

Moreschi, Annibale, new explosive substance derived from formaldehyde, A., i, 385.

Morgan, Gilbert Thomas, and Frederick Page Evans, β-naphthylmethylamine, T., 1140.

organ, Gilbert Thomas, and Eric Doddrell Evens, the constitution of Morgan, internal diazo-oxides (diazo-phenols). II., T., 1126.

Morgan, John David, the ignition of explosive gases by electric sparks, T., 94. Morgenroth, Julius, isomerism  $\mathbf{a}$ nd

anæsthetic action, A., i, 300.

Morgulis, Sergius, and H. M. Jahr, estimation of ammonia in blood, A., ii, 371.

Lewis-Benedict method of estimating blood sugar, A., ii, 435.

Morris, J. Lucien, new titration method for the determination of uric acid in urine, A., ii, 175.

Morris, R. L., estimation of lead in lead salts, A., ii, 201.

Morton, Allan, improved apparatus for the estimation of vapour pressures, A., ii, 448.

Morton, James, Arthur Gilbert Dandridge, and Morton Sundour Fabrics, Ltd., improvements in the production of a colouring matter (N-dihydro-1:2:2':1'-anthraquinone-azine), A., i, 352.

Morton Sundour Fabrics, Ltd. James Morton.

Moser, Ludwig, yellow cuprous oxide, A., ii, 155.

Moudgill, K. L. See Thomas Stewart Patterson.

Moulton, S. C. See Samuel L. Jodidi. Moureu, Charles, and Charles Dufraisse, the stabilisation of acraldehyde. I. The methods of spontaneous alteration of acraldehyde, A., i, 574.

Moureu, Charles, and Adolphe Lepape, the stabilisation of acraldehyde. Empirical process of stabilisation, A., i, 574.

Mrazek, (Frl.) Danica. See Anton Skrabal.

Muckenfuss, A. M., the presence of food accessories in urine, bile, and saliva, A., i, 54.

Müller, Ernst, and Hertha Willenberg, micro-elementary analysis, A., ii, 297. Mueller, E. F., and H. A. Burgess,

standardisation of the sulphur boiling point, A., ii, 446.

Müller, Frieda, preparation of catalytically active substances, A., ii, 17.

Müller, R. See Otto Fischer. Mündler, K. See Wolfgang Ostwald. Muffat, Carl. See Fritz Straus. Mugden, Susanne. See Otto Ruff.

J $\~{n}$ anendra Mukherjee, Nath,Nagendra Nath Sen, coagulation of metal sulphide hydrosols. I. Influence of distance between the particles of a sol on its stability; anomalous protective action of dissolved hydrogen sulphide, T., 461.

Muller, Joseph Auguste, simultaneous or successive decompositions provoked by physical agents, A., ii, 500.

Mulliken, Robert S. See Richard C. Tolman.

Mullinix, R. D. See Hermann I. Schlesinger.

Munaretto, G., substances which inhibit the coagulation of proteins by heat, A., i, 294.

Munderloh, H. See Kurt Hess.

Murakami, Takejiro, structure of ironcarbon-chromium alloys, A., ii, 194.

Muraour, Henri, the determination of the temperatures reached in explosive reactions, A., ii, 277.

comparison of the temperatures of explosion calculated from specific heats with the temperatures of explosion calculated from explosive pressures, A., ii, 501.

Murdock, H. R. See H. P. Hood.

Myers, Rollin C., and Leonard C. Scott, salivary amylase. I. A preliminary experimental study of its stability in saliva, A., i, 54.

Myers, Rollin G. See also Ernest Oertly. Myers, Victor Caryl. See C. K. Watanabe.

## N.

Nacken, Richard, limits of formation of mixed crystals between potassium chloride and sodium chloride, A., ii,

Nägeli, C. See P. Karrer.

Nagai, Nagayoshi, improvements in and relating to synthetic drugs [mydriatic alkaloids], A., i, 92.

Nagel, W. See E. Teichmann.

Nakao, Manzo, electroanalysis of bismuth and its ores, A., ii, 431.

Nakazawa, Tadasu. See Motooki Matsui. Narain, Ramji, oxydases; with special reference to their presence and function in the sugar-cane, A., i, 114.

Narbutt, J., the melting points, refractive indices and densities of a series of dihalogenobenzenes, A., i, 314.

empirical formula for calculating the specific heat of water, A., ii, 95. specific and latent heat of fusion of

the dichloro-, chlorobromo-, di-bromo-, bromoiodo-, and di-iodobenzenes. I., II., III. and IV., A., ii, 215, 216, 217.

Nason, Edith H., dinitro-derivatives of p-dichlorobenzene; 1:4-dichloro-2:5dinitrobenzene, A., i, 10.

Naville, Ph. See Emil Briner.

Neber, Peter. See Wilhelm Wislicenus. Neitzel, F., titration of v-aminoszobenzene, A., ii, 436.

analysis of sulphonyl chlorides of aromatic substances, A., ii, 482.

**Nelson**, E. K., the constitution of capsaicin, the pungent principle of capsicum, A., i, 543.

Nelson, John Maurice, and Frank M. Beegle, mutarotation of dextrose and

lævulose, A., i, 256.

Nelson, V. E. See Edwin Bret Hart. Nelson-Gerhardt, Mathilde, salmine, A.,

Němec, Antonín. See Jaroslav Milbauer. and Julius Stoklasa.

Neogi, Panchānan, space representation of organic nitrogen compounds, A., i,

Nernst, [Hermann] Walther, use of Einstein's photochemical equivalent law. 1., A., ii, 208.

Neubauer, Hugo, and E. Wolferts, estimation of citrate soluble phosphoric acid by Petermann's method, A., ii, 476.

Neuberg, Carl, and (Mme.) E. Kerb, phytochemical reductions. XV. The conversion of acetaldol into optically active  $\beta$ -butylene glycol by yeast, A., i, 119.

phytochemical reductions. XVI. The conversion of citral into geraniol by

yeast, A., i, 119.

Neuberg, Carl, and A. Lewite, phytochemical reductions. XIV. Hydrogenation of a ketone by yeast; change of methylheptenone into the corre-

sponding heptenol, A., i, 109. Neuberg, Carl, and F. F. Nord, application of the fixation method in bacterial fermentation. I. Acetaldehyde as an intermediate product in the fermentation of sugar, mannitol, and glycerol by Bacterium coli, dysentery, and gas gangrene organisms, A., i, 612.

application of the fixation method in II. The bacterial fermentation. establishment of an aldehyde stage in acetic acid fermentation, A., i, 612.

Neuberg, Carl, and M. Ringer, phyto-chemical reductions. XIII. Asymmetrical reduction; conversion of racemic valeraldehyde (methylbutaldehyde) into I-amyl alcohol, A., i,

the method of formation of succinic acid in nature. III. Conversion of aldehydopropionic acid into succinic

acid by yeast, A., i, 56.

Neumann, Bernhard, Basil Valentine, A., ii, 332.

Neumann, Ludwig. See Rudolf Mewes. Newbery, Edgar, and Hartley Lupton, radioactivity and the coloration of minerals, A., ii, 130.

Newbery, Edgar. See also William Heap.

Newcomer, H. S., absorption spectra of acid hæmatin, oxyhæmoglobin, and carbon monoxide hæmoglobin; a new

hæmoglobinometer, A., ii, 179. Nicholas, Henry O. See Harry N. Holmes.

Nicholls, Noel Albert. See Percy Faraday Frankland.

Nicholson, John William, emission spectra and atomic structure, T., 855.

Nicolaeva, (Mlle.) V. See Siegmund Reich.

Nicolardot, Paul, the hammer-hardening of lead, tin and thallium, A., ii, 193. reactivity of powdered glasses, A., ii, 393.

Nicolardot, Paul, and Jean Boudet, mercury fulminate and some of its impurities, A., i, 198.

the replacement of platinum by an alloy in apparatus for electrolytic analysis, II., A., ii, 166.

Nicolardot, Paul, and Claude Chatelot, action of alkalis on crucibles made of alloys of platinum or of gold, A., ii,

Nicolardot, Paul, and F. Dandurand, separation and estimation of magnesium in the presence of fixed alkalis, A., ii,

Nicolardot, Paul, and Georges Gourmain. estimation of nickel in ferro-nickels and steels, A., ii, 352.

Nicolardot, Paul, and A. Levi, estimation of manganese in steel by means of persulphate in the presence of chromium and tungsten, A., ii, 479. Nicolardot, Paul, and Gustave Prevot,

gas burette, A., ii, 421. Nicolardot, Paul, and Antoine Reglade, the estimation of zirconium, A., ii, 170.

estimation of zirconium as phosphate, A., ii, 482.

Nicolardot, Paul, and H. Robert, apparatus for measuring the volume of gas evolved during a chemical reaction, A., ii, 373.

Nicolardot, Paul, and Lucien Valli-Douau, assay and estimation of nitroso-

β-naphthol, A., ii, 83.

Niementowski, Stefan von, and Ed. Sucharda, syntheses of 1:3-dihydroxybenzo-2:5-naphthyridine [1:3-dihydroxy-2:5-naphthadiazine] and a new angular system of five nuclei, namely, diquinopyridone, A., i, 354.

Niementowski, Stefan von. See also W. Baczyński, L. T. Bratz, and K. See also

von Ihnatowicz.

Nierenstein, Maximilian, the tannin of the knopper gall, T., 1174.

the colouring matter of the red pea

gall, T., 1328.

hæmoquinic acid; a new disintegration product of quinine present in the urine, especially in "blackwater" fever, A., i, 236.

chitenine; a disintegration product of quinine found in the urine, A., i, 236. Nierenstein, Maximilian. See also

Rodger James Manning.

Niggemann, Hermann, conversion of naphthalene into liquid products, A., i, 392.

Niggemann, Hermann. See also Franz Fischer.

Niggli, Paul, investigations on carbonate- and chloride-fusions, A., ii, 276.

Noack, K., investigations on the anthocyanin metabolism on the basis of the chemical properties of the anthocyanin group, A., i, 372. Nobel's Explosives Co.

See William Rintoul.

Noll, Friedrich. See Paul Jannasch. Nolte, Otto, plasticity and "strength"

of clay, A., ii, 28.

Nord, F. F., biochemical formation of mercaptans, A., i, 382.

biochemical formation of aminoethyl alcohol from serine, A., i, 474.

Nord, F. F. See also Carl Neuberg.

Norman, George Marshall, the formation of diazoamino-compounds from  $\beta$ -naphthylamine, T., 673. Northrop, John H., effect of various

acids on the digestion of proteins by pepsin, A., i, 502.

Northrop, John H., Lauren H. Ashe, and James K. Senior, biochemistry of Bacillus acetoethylicum with reference to the formation of acetone, A., i, 507.

Noyes, H. A., estimation of nitrates in soil by the phenoldisulphonic acid method, A., ii, 199.

Noyes, William Albert, jun., contraelectromotive force of polarisation in sulphur<u>i</u>c acid, A., ii, *2*63.

Nyman, Ernest, estimation of zinc and calcium in the presence of lead, A., ii, 427.

0.

Oberfell, G. G., and H. T. Boyd, manufacture of amyl acetate and its homologues from chloro-hydrocarbons of the paraffin series, A., i, 465.

Oberhoffer, P. See Albert Beutell. O'Connell, Philip. See Hugh Ryan. O'Connor, Edmund Arthur. See Albert Cherbury David Rivett.

Odenwald, Hans, action of alkaline solutions of bromine on acid amides. A., i, 523.

Odenwald. Hans. See also RobertBehrend.

Oechslin, K. J., formaldehyde derivative of arsenophenylglycine, A., i, 505. acetylarsenophenylglycine, A., i, 505.

Oelsner, Alice, and Alfred Koch, changed course of alcoholic fermentation in an alkaline medium, A., i, 302.

Oelsner, Alice. See also Alfred Koch. Oertley, Ernest, and Rollin G. Myers, new theory relating constitution to taste; simple relations between the constitution of aliphatic compounds and their sweet taste, A., i, 422.

Oesterheld, G., and P. Honegger, simple method of analysing bearing metal and similar alloys, A., ii, 478.

Ogata, A., α- and β-aminoalkyl(aryl)-

benzenes and their derivatives, A., i, 479. Okaya, Tokiharu, the rhythmic evolution of carbon monoxide and the constant of accumulation, A., ii, 504.

Okey, Ruth E., behaviour of inulin in the animal body. II. Inulin in the alimentary canal, A., i, 506.

behaviour of inulin in the animal body; application of the Benedict method to the estimation of lavulose and inulin, A., ii, 302.

Okey, Ruth E. See also George Denton Beal.

Oliveri-Mandalà, E., chromium azoimide, A., ii, 468.

Johannes. Olivier, Simon Corneliss-chlorobenzenedisulphonic acid and some of its derivatives, A., i, 11.

Onsager, Arvid. See Hartwig Franzen. Onslow, Muriel Wheldale, oxidising enzymes. I. The nature of the "peroxide" naturally associated with certain direct oxidising systems in plants, A., i, 361.

Oosterhuis, E. See L. Hamburger. Oppenheimer, Trudi. See Fritz Mayer. Orcel, J., phosphorite from the island of Juan de Nova, Madagascar, A., ii, 109.

Orékhoff, A., molecular transpositions of the a-glycols. I. Introduction, A., i, 146.

molecular transpositions of the a-glycols. II. Product of dehydration of αβγ-triphenylpropane-αβ-diol, A., i, 205.

molecular transpositions of the aglycols. VIII. The constitution of the product of dehydration of αββtriphenylethanediol, A., i, 272.

CXVI. ii.

Orékhoff, A., and F. Coma y Roca, molecular transpositions of the a-glycols. IV. Product of dehydr-ation of a methoxy-derivative of of the αββ-triphenylethanediol; phenylic migration, A., i, 206.

molecular transpositions of the aglycols. V. The dehydration of a methoxy-derivative of αβγ-triphenylpropane-aβ-diol, A., i, 271.

Orékhoff, A., and J. Zive, molecular transpositions of the a-glycols. III. The dehydration of αγ-diphenyl- $\beta$ -benzylpropane- $\alpha\beta$ -diol, A., i, 205.

molecular transpositions of the α-glycols. VI. Dehydration of ααβγtetraphenylpropane-aβ-diol, A., i, 272.

molecular transpositions of the aglycols. VII. The dehydration of αβ-diphenylbutane-αβ-diol and of αβ-diphenylmethylpentane - αβ-diol, A., i, 272.

O'Riordan, William M. See Hugh Ryan. Ornstein, Leonard Salomon. See W. J. H. Moll.

Orthner, R., dissociation of salicylic acid, A., ii, 12. reversal of the dissociation of salicylic

acid. A., ii, 12.

Orton, Kennedy Joseph Previté, preparation of tetranitromethane, A., i, 247.

Orton, Kennedy Joseph Previté, and David Charles Jones, the critical solution temperature of a ternary mixture as a criterion of purity of toluene, T., 1055.

the temperature of critical solution of a ternary mixture as a criterion of purity of n-butyl alcohol; the preparation of pure n-butyl alcohol, T., 1194.

Osborne, Thomas Burr, and Lafayette Benedict Mendel, the nutritive value of yeast protein, A., i, 420.

nutritive factors in plant tissues. II. The distribution of the water-soluble vitamine, A., i, 510.

Osborne, Thomas Burr, Lafayette Bene-

dict Mendel, and Edna L. Ferry, a method of expressing numerically the growth-promoting value of proteins, A., i, 186.

Osborne, Thomas Burr, Lafayette Benedict Mendel, Edna L. Ferry, and Alfred John Wakeman, the nutritive value of the wheat kernel and its

milling products, A., i, 298.

Osborne, Thomas Burr, Alfred John
Wakeman, and Edna L. Ferry, preparation of protein free from watersoluble vitamine, A., i, 502.

Oshika, H., isolation of a saponin from Platycodon grandiflorum root, A., i,

Ossenbeck, A. See B. Heymann. Osterhout, Winthrop John Vanleuven, conductivity as a measure of permeability, A., i, 111.

effect of diffusion on the conductivity

of living tissue, A., i, 112. method of measuring the electrical conductivity of living tissues, A., i, 112.

an indicator method of measuring the consumption of oxygen, A., i, 297.

permeability in plants, A., i, 303. decrease of permeability and antagonistic effects caused by bile salts, A., i, 303.

a comparison of permeability in plant and animal cells, A., i, 303.

antagonism between alkaloids and salts in relation to permeability, A., i, 425.

a simple method of demonstrating the production of aldehyde by chlorophyll and by aniline dyes in the presence of sunlight, A., i, 595.

comparative studies on respiration. VII. Respiration and assimilation, A., i, 611.

Osterhout, Winthrop John Vanleuven. and A. R. C. Haas, the temperaturecoefficient of photosynthesis, A., i,

Ostwald, Wa., graphic system of representing hydrocarbons, A., i, 193.

the theory of the gasification process; [producer gas], A., ii, 267.

graphic representation of systems of the form a + b = c in triangular coordinates and a [method of] presentation of the phase rule, A., ii, 460.

Ostwald, Wolfgung, colloid chemistry of indicators. II., A., ii, 187. colloid chemistry of Congo rubin;

theory of indicators and the theory of the colour change of organic substances, A., ii, 400.

Ostwald, Wolfgang, and K. Mündler, osmosis and swelling of disperse systems, A., ii, 185.

Osumi, Minoru. See Gen-Itsu Kita.

Ott, Erwin, simple cyanic and cyanuric compounds. I. Hexacyanogen [cyanuric cyanide], A., i, 260.

new process for the estimation of oxalic acid, A., ii, 303.
Ottenstein, Berla. See Alexander Gut-

Ottmann, W. See Alfred Stock.

Otto, K., the treatment of wounds with the Carrel-Dakin solution, A., i, 365. Owen, E. A. See Charles L. Burdick. Owen, S. P. See George W. Todd.

## P.

Paal, Carl, and Hermann Steyer, amal-I. and II. Colloidal gold amalgam, A., ii, 69, 516.

dehydrogenation of palladium hydrogen hydrosol by metallic and col-

loidal mercury, A., ii, 70.

Paderi, Cesare, behaviour of the methylene group united to the carboxyl group in trimethylenesaccharic acid, A., i, 468.

Padoa, Maurizio, chemical affinity in crystals and the velocity of crystallisation, A., ii, 51.

thermochemical value of the linkings uniting the atoms in crystals, A., ii, 96.

Pagel, C. See A. Simon.

Pagliani, Stefano, internal molecular forces of solid substances and their relations with the elastic properties, A., ii, 48. Paine, *H. M.* 

See William Draper

Harkins.

Palet, Luciano P. J., the use of diastatic II. The detection of reagents. pyramidone and the differentiation of the naphthols, A., ii, 83.

a new and delicate reaction of pyramidone and its differentiation from

antipyrine, A., ii, 86. the reaction of the "ferri-ferric" reagent with alkaloids, glucosides, and other vegetable principles, A., ii, 86.

the death of Scheele, A., ii, 280.

a reaction of aconitine, A., ii, 305. Palet, Luciano P. J., and Amancio Fernandez, modification in the technique of Fischer's reaction for hydrogen sulphide, A., ii, 294.

Palitzsch, Sven, compressibility of aqueous solutions of casein and peptone,

A., i, 228.

Palitzsch, Sven. See also Theodore William Richards, and Sören Peter Lauritz Sörensen.

Palmer, Leroy S., and Robert G. Scott, the physicochemical state of the proteins in cow's milk, A., i, 188.

Palmgren, John, the eulysite of Södermanland, A., ii, 164.

Panebianco, G., approximation in the calculation of chemical analyses, A., ii, 115.

Paneth, Fritz, bismuth hydride, A., ii, 30. bismuth hydride and polonium hydride, A., ii, 67.

Paneth, Fritz, and Erich Winternitz, bismuth hydride. II., A., ii, 68. Pantanelli, Enrico, alterations in the

metabolism and cellular permeability at temperatures near the freezing point, A., i, 370.

Pantel, J., calcium: form of reserve in the female of the phasmides; its forms of elimination in the two sexes, A., i, 138.

Papish, Jacob, flame reactions; selenium and tellurium in the hydrogen-air flame, A., ii, 105.

Parankiewicz, Irene, light positive and light negative photophoresis [in connexion with | sulphur and selenium, A., ii, 128.

Parravano, Nicola, gold amalgams, A. ii, 69.

Parravano, Nicola, and P. Agostini, reduction of metallic sulphides by means of aluminium, A., ii, 343. Parravano, Nicola, and P. Jovanovich,

silver amalgams rich in silver, A., ii, 155. gold amalgams rich in gold, A., ii,

Parsons, H. T. See Elmer Verner McCollum.

Parsons, J. T. See B. S. Davisson.

Partington, James Riddick, oxidation of coal, A., ii, 107.

Partridge, William, a modified "etching" test for fluorides, A., ii, 349.

Pascal, Paul, and Eugène Decarrière, the catalytic oxidation of ammonia,

A., ii, 463.

Pascal, Paul, and Ero, normal and acid sulphates of sodium, A., ii,

Pascal, Paul, and M. Garnier, densities of mixtures of sulphuric and nitric acids, A., ii, 229.

relations between nitrogen peroxide and nitric acid, A., ii, 339.

Paterni, Ludovico. See Ugo Lombroso. Paterson, Clifford C., and Norman Campbell, characteristics of the spark discharge and its effect in igniting explosive mixtures, A., ii, 314.

Patschovsky, Norbert, the identification, localisation, and distribution of oxalic acid [soluble oxalates] in plants, A.,

i, **3**03.

Patten, Harrison Eastman, and Alfred J. Johnson, the effect of hydrogen-ion concentration on the liquefaction of gelatin, A., i, 360.

Patterson, Thomas Stewart, and K. L. Moudgill, optical activity. I. Temperature-rotation curves for the tartrates at low temperatures, A., ii, 377.

Paul, Ludwig, behaviour of an alcoholic solution of lead acetate towards the resinous substances of colophony. I.,

A., i, 411.
Paul, Theodor, and Karl Schantz, the boiling point as a criterion of purity and a new apparatus for its determination without correction for the thermometer, A., ii, 422.

Paulson, J. E., regularities of the second kind in line spectra, A., ii, 177.

Pauly, Hermann, the present condition of the benzene problem, A., i, 120.

Payman, William, the propagation of flame in complex gaseous mixtures. I. Limit mixtures and the uniform movement of flame in such mixtures, T., 1436.

the propagation of flame in complex gaseous mixtures. Il. The uniform movement of flame in mixtures of air with paraffin hydrocarbons, T., 1446.

the propagation of flame in complex gaseous mixtures. III. The uniform movement of flame in mixtures of air with mixtures of methane, hydrogen and carbon monoxide, and with industrial inflammable gases, T., 1454.

Payman, William, and Richard Vernon Wheeler, the propagation of flame through tubes of small diameter. II., T., 36.

Payman, See also Hubert William. Frank Coward.

Pearce, Louise. See Walter Abraham Jacobs.

Pearson, (Mrs.) Leonore Kletz, pungency of synthetic aromatic ketones related to zingerone, A., i, 489.

Pearson, (Mrs.) Leonore Kletz. Arthur Lapworth.

Peck, Eugene C. See Otto Folin.

Pedler, (Sir) Alexander, obituary notice of, T., 436.

Pelchrzim, (Frl.) Hertha von. See Emil Fischer.

Pellizzari, Guido, o-aminophenylearbamide, A., i, 201.

Pellizzari, Guido, and Augusto Gaiter, action of cyanogen haloids on phenylhydrazine. IV. Passage to derivatives of o-phenylenediamine, A., i, 134.

Pember, F. R. See Burt Laws Hartwell.

Peratoner, E. See Guido Bargellini. Perkin, William Henry, jun., cryptopine. II., T., 713.

Perkin, William Henry, jun., and Robert Robinson, harmine and harmaline. III. and IV., T., 933, 967.

Perperot, H., estimation of the different constituents of a mixture containing eugenol, triacetin, and benzyl alcohol. A., ii, 250.

Perrier, C., crystallography of the compounds of nickel and magnesium tetrathionate octahydrates with hexamethylenetetramine, A., i, 522.

Perrin, Jean, matter and light; attempt at the synthesis of chemical dynamics, A., ii, 177.

Perruche, Lucien Jean Joseph. See Ferdinand Gros & Bouchardy.

Perucca, Eligio, observations and measurements on optically active crystals (NaClO<sub>3</sub>), A., ii, 487. Perutz, Alfred, and Max Rosemann, the

theory of clotting, A., i, 137.

Peters, Amos William, the micro-estimation of nitrogen by direct nesslerisation, and of total solids, in drop quantities of human blood, A., ii, 474.

Peters, Hermann, the discovery of phosphorus, two hundred and fifty years ago, A., ii, 511.

Peters, Walter, action of copper on sodium nitrite, A., ii, 413.

Peterson, W. H. See Edwin Brown

Petri, James Mathew, chemical investigations of some poisonous plants in the natural order Solanaceae. III. Occurrence of norhyoscyamine in Solandra longistora, A., i, 243.

Pettijohn, Earl, measurement of the thickness of film formed on glass and sand, A., ii, 220.

Pfeiffer, J., Ferdinand Mauthner, and O. Reitlinger, chlorination of methane, A., i, 565.

Pfeiffer, Johannes von. See Daniel Vörlander.

**Pfeiffer**, Paul, molecular compounds with high co-ordination numbers and with atomic groups as co-ordination centres; the stereochemistry of inorganic boron, silicon, and phosphorus compounds, A., ii, 160.

Pfeiffer, Paul, and Theodor Böttler, quinonoid character of maleic anhydride, A., i, 62.

Pfeiffer, Theodor, and W. Simmermacher, estimation of nitrite and nitrate nitrogen in the presence of other nitrogen compounds, A., ii, 296.

Philibert, M., estimation of alkali hydroxide and alkali carbonate in alkali hypochlorite solution, A., ii,

estimation of urea, A., ii, 374.

Philibert, M., estimation of free alkali hydroxide and carbonate in alkali hypochlorite solution, A., ii, 427.

Philippi, Ernst, hæmocyanin, A., i,

Phillips, A. J., the partial purification of zirconium oxide, A., ii, 195. colloidal tricalcium aluminate, A., ii,

**Piazza,** G., formation and decomposition of phloroglucinolcarboxylic acid, A.,

ii, 10.

Pichard, (Mlle.) G. See A. Astruc. Pickles, Alwyn, colloidal silver, A., ii,

preparation of hydrobromic acid, using potassium bromide, sulphuric acid, and stannous chloride, A., ii, 411.

Picon, the action of monosodioacetylene on some halogen esters of secondary and tertiary alcohols, A., i, 246.

action of monosodioacetylene on some iodides of primary alcohols with branched chains, A., i, 246.

the preparation of some true acetylenic hydrocarbons by means of monosodioacetylene, A., i, 429.

Pictet, Amé, coal, A., i, 152.

Pictet, Amé, and Marc Cramer, distillation of egg albumin under reduced pressure, A., i, 227.

Pictet, Amé, and Jacques Potok, the distillation of sodium stearate and oleate under reduced pressure, and the origin of petroleum, A., i, 569.

Pierce, James Buchanan, jun., manufacture of strontium peroxide, A., ii,

Pierce, W. McG. See Richard C. Tolman. Pieroni, A. See Angelo Angeli.

Pierron, P., ethyleneguanidine and diethyleneguanidine, A., i, 417.

Piguet, L. A. See Ebenezer Henry Archibald.

Piña de Rubies, Santiago, a very exact and rapid method for the estimation of mercury in the majority of its compounds, A., ii, 80. oruetite, a new sulphotelluride of

bismuth, A., ii, 235.

Piña de Rubies, Santiago. See also B.

Pinnow, Johannes, exidation of quinol and its sulphonic acids by means of Fehling's solution, A., i, 123.

systematic extractions with ether, A., ii, 303.

Pinsker, Jacob. See Arthur Rosenheim. Pittarelli, E., simplification of Kjeldahl's method in clinical chemistry, A., ii, 424.

Pitz, Walter. See Edwin Bret Hart. Plotnikow, Joh., cause of the sensitiveness of chemical compounds to light,

A., ii, 311. Poch, Pelayo. See Julio de Guzmán.

Podszus, Emil, size of particle, solution tension, and sintering, A., ii, 264. flowing metal vapour arcs, A., ii, 445. Pogossianz, Jussik. See Hans Stobbe.

Pohl, Julius, and Margarete Rawicz, the fate of tetrahydronaphthalene (tetralin) in the animal body, A., i, 236.

Polack, Wilfrid Gustav. See Arthur John Allmand.

Polara, V., capillarity constants of pure mercury and of liquid potassium amalgam in contact with potassium iodide solutions, A., ii, 99.

Pollard, William Branch, o-tolidine as a colorimetric test for gold, A., ii, 201.

Pont de Nemours & Co., E. J. du. See Homer Rogers.

Pope, (Sir) William Jackson, presidential address, T., 397.

Popoff, Sergei. See Hermann I. Schlesinger.

Porter, Alfred William, the vapour pressures of mixtures of ether and sulphuric acid, A., ii, 448.

general remarks on occlusion of gases in metals, A., ii, 449.

Porter, C. W., and C. T. Hirst, asymmetric dyes, A., i, 558.

Porter, Lyman E., and Philip Embury Browning, sulphite method for the separation and estimation of gallium when associated with zinc, A., ii, 525.

Portevin, A., influence of different factors on the critical velocity of tempering of carbon steels, A., ii, 158.

**Portevin**, A., and **Garvin**, the formation of troostite at low temperature in carbon steels and the influence of the temperature of emersion in interrupted tempering, A., ii, 194.

Posnjak, Eugen, and Herbert Eugene Merwin, hydrated ferric oxides, A., ii,

Posternak, Swigel, two crystalline salts from the phospho-organic reserve principle of green plants, A., i, 426. the constitution of the phospho-organic reserve principle of green

plants, A., i, 426.

the synthesis of inositol-hexaphos-phate and its identity with the phospho-organic reserve principle of green plants, A., i, 433.

sodium inositol-hexaphosphate, A., i, 505.

Potok, Jacques. See Amé Pictet. Potter, Ralph S., and R. S. Snyder, the organic phosphorus of soil, A., i, 142.

Potter, Ralph S. See also R. S. Snyder.

Powell, A. D., estimation of phenacetin and other p-aminophenol derivatives by means of hypochlorous acid, A., ii, 86.

Powell, A. R. See Walter R. Schoeller. Power, Frederick Belding, and Victor K. Chesnut, Ilex vomitoria as a native source of caffeine, A., i, 614.

estimation of caffeine in vegetable material, A., ii, 437.

Pratt, David Shephard, F. B. Doane, and A. W. Harvey, phthalic acid derivatives; constitution and colour. XVI. Phenoltetrabromophthalein and some of its derivatives, A., i, 537.

Pratt, David Shephard, G. F. Hutchinson, and A. W. Harvey, phthalic acid derivatives; constitution and colour. XVII. Tetrabromofluorescein, tetrabromoeosin, and some of their derivatives, A., i, 536. Preiss, O. See Theodor Zincke.

Preiswerk, Ernst, preparation of iso-

butyl oleate, A., i, 251. Prendergast, H. J. See J. F. Mc-

Prescher, Johannes, selection of an indicator for the acidimetric estimation of boric acid, A., ii, 243.

Prevot, Gustave. See Paul Nicolardot. Price, Tudor Williams, the vapour pressures and densities of mixtures of acetone and methyl ethyl ketone, T., 1116.

the decomposition of carbamide in the presence of nitric acid, T., 1354.

Tudor Williams. See also Price. Albert Greville White.

Prideaux, Edmund Brydges Rudhall, the effect of sea-salt on the pressure of carbon dioxide and alkalinity of

natural waters, T., 1223.

Prideaux, Edmund Brydges Rudhall, and Robert Martin Caven, the evaporation of concentrated and saturated solutions of ammonium nitrate, vapour pressures, heats of solution, and hydrolysis, A., ii, 447.

Pringsheim, Hans Hugo, and E. Kuhn, estimation of acetone, methyl alcohol, and furfuraldehyde in the presence of each other, A., ii, 529.

Pringsheim, Hans Hugo, and Hans Magnus, the acetyl content of lignin, A., i, 473.

Pringsheim, Hans Hugo, and Adelheid Magnus von Merkatz, enzyme studies cellulose degradation products,

A., i, 419. Prins, H. J., substitution in aromatic compounds, A., i, 71.

citronellol, A., i, 83.

condensation of unsaturated compounds in relation to terpenes, resins, and caoutchouc, A., i. 128. a modification of the freezing-point method for the determination of molecular weights, A., ii, 360.

Prior, George Thurland, a method for the quick estimation of the nickeliron in meteorites, A., ii, 526.

Prior, George Thurland. See also George Frederick Herbert Smith, and R. H. Solly.

Prud'homme, Maurice, formic acid is as much an aldehyde, A., i, 195.

the critical temperature as a single function of the surface tension. I. and II., A., ii, 183, 446.

Prüsse, August. See Robert Behrend. Pullman, D., regeneration of Nessler's solution, A., ii, 232.

Pummerer, Rudolf, oxidation of phenols. IV. Constitution of the dehydronaphthols and preparation of dehydroa-bromo-β-naphthol, A., i, 440.

Pummerer, Rudolf, and Emil Cherbuliez, oxidation of phenols. III. Polymerisation of methylenequinones to

cyclic dehydrophenols, A., i, 439. oxidation of phenols. V. Formation of β-hydroxy-αβ'-dinaphthyl ether by the dehydrogenation of β-naphthol, A., i, 442.

Pummerer, Rudolf, and Fritz Frankfurter, oxidation of phenols. VI. Dehydro-oxydinaphthalene oxide and colorimetric observations of its dissociation into radicles, A., i, 442.

Pusch, Lotte, use of Einstein's photo-chemical equivalent law. II., A., ii, 208. Puxeddu, Ernesto, law of multiple pro-

portions, A., ii, 460. Pyman, Frank Lee, the alkaloids of Holarrhena congolensis, Stapf., T.,

meta-substituted aromatic selenium

compounds, T., 166. Pyman, Frank Lee. See also Robert

George Fargher.

Quast, Rudolf. See Walther Borsche. Quennessen, L., the attack of platiuum and gold by the alkali hydroxides, A., ii, 292.

Quereigh, Emanuele, crystallography of compounds of lithium mercuric haloids with hexamethylenetetramine, A., i, 523.

crystallography of some platinithio-cyanates of organic bases, A., i, 576.

the crystallography of uranyl nitrate

hexahydrate, A., ii, 469. Walter, constitutions of the fenchene hydrocarbons, A., i, 165.

## R.

Rabe, Paul, and Karl Kindler, the cinchona alkaloids. XX. Synthesis of quinotoxines, A., i, 34.

Radcliffe, Lionel Guy, preparation and uses of semi-oxamazide, A., i, 447.

Rakshit, Jitendra Nath, porphyroxine, T., 455.

Ralph, Edgar W. See Joseph Reilly. Ramann, Emil, and A. Spengel, soilsorption, A., i, 615.

basic exchange in silicates. II., A., ii,

Ramart-Lucas, (Mme.) Pauline. Ernest Fourneau.

Ramberg, Ludwig, electrolytic reduction of arsenic and arsenious acids to arsenic trihydride at cathodes of different metals, A., ii, 387.

Ramsden, W., I. J. Lipkin, and E.

Whitley, quinine in animal tissues and liquids, with methods for its

estimation, A., i, 106. Randall, H. M., and E. F. Barker, the infra-red spectrum of iron, A., ii, 357.

the infra-red spectra of cobalt, nickel, manganese, and chromium, A., ii, 357.

Ranque, A. See Adolphe Besson.

Raquet, Désiré Alphonse. See Hubert

Raschig, Fritz, combustion of ammonia in a deficiency of oxygen, A., ii,

Rath, Emil, preparation of the bromoisovaleric ester of bromoamylene hydrate, A., i, 148.

Rather, J. B., and Ebenezer Emmet Reid, the identification of acids. IV.

Phenacyl esters, A., i, 157.

Rauchenberger, (Frl.) J. See Kasimir Fajans.

Ravenna, Ciro. See Giacomo Luigi Ciamician.

Rawicz, Margarete. See Julius Pohl.

Ray, L. A. See Thorburn Brailsford Robertson.

Rây, (Sir) Prafulla Chandra, mercury mercaptide nitrites and their reaction with the alkyl iodides. VI. Chain compounds of sulphur, T.,

interaction of mercuric and cupric chlorides respectively and mercaptans and potential mercaptans, T., 871.

Rây, (Sir) Prafulla Chandra, Prafulla Chandra Guha, mercury mercaptide nitrites and their reaction with the alkyl iodides. IV., V. and VII. Chain compounds of sulphur, T., 261, 541, 1148.

Rây, (Sir) Prafulla Chandra, Prafulla Chandra Guha, and Radha Kishen Das, reaction of the potassium salts of 2-thiol-5-thio-4-phenyl-4:5-dihydro-1:3:4-thiodiazole and 2:5-dithiol-1:3:4thiodiazole with halogenated organic compounds, T., 1308.

Rây, (Sir) Prafulla Chandra, and Prafulla Kumar Sen, mercuric sulphoxy-

chloride, T., 552.

Read, John, and Margaret Mary Williams, a novel application of bromine water in synthetic organic chemistry, A., i, 400.

Read, John W. See Edward Wight Washburn.

Reboul, G., the phenomena of luminescence accompanying the oxidation of potassium or sodium, A., ii, 311.

Rees, Edwin Arthur. See McPhail Smith.

Regenbogen, (Miss) A. See Nicolaas Schoorl.

Reglade, Antoine. See Paul Nicolardot.

Reich, Siegmund, and (Mlle.) V. Nicolaeva, ring formation with elimination of a nitro-group, A., i, 171.

Reiche, Fritz, and Adolf Smekal, theory of Röntgen spectra, A., ii, 21. Reid, Douglas M. See Joseph Knox.

Reid, Ebenezer Emmet. See J. B. Rather.

Reilly, Joseph, and Wilfred John Hickinbottom, the n-butylarylamines. III. Constitution of the nitro-derivatives of n-butyl-p-toluidine, T., 175.

the estimation of the volatile fatty acids by an improved distillation method, A., ii, 527.
Reilly, Joseph, and Edgar W. Ralph,

the system: n-butyl alcohol-acetonewater, A., ii, 526.

Reinkober, Otto. See Friedrich Krüger. Reiss, F., and G. Diesselhorst, ring formation in reactions, A., ii, 166.

Reitlinger, O. See J. Pfeiffer.

Remington, Joseph Price, obituary notice of, T., 438.

Report of the Committee of the British Association on colloid chemistry and its industrial application, A., ii, 13.

colloid chemistry and its general and industrial applications; second report, A., ii, 453.

Report of the Council, T., 384.

Report of the International Committee on Atomic Weights, T., 879.

Reveillet. See Baur.

Reychler, Albert, solutions, A., ii, 451. Reverson, L. H. See Richard C. Tolman.

Reynolds, François H., a multiple pipette holder for the distribution of serum for the complement-fixation test, A., ii, 252.

Rheinboldt, H. See Edgar Wedekind. Rhodehamel, H. W., compounds of 2-phenylquinoline-4-carboxylic with halogen acids, A., i, 551.

Rhodin, John G. A., chemistry of aluminium and aluminium alloys, A., ii, 193.

Richards, J. W., vapour tensions of the metals, A., ii, 266.

Richards, (Miss) Marion Brock.
Joseph Knox.

Richards, Percy Andrew Ellis, detection and estimation of cocaine, heroine, and veronal in viscera, A., ii, 375.

Richards, Theodore William, and Sylvester Boyer, purification of gallium by electrolysis, and the compressibility and density of gallium, A., ii, 158.

Richards, Theodore William, W. M. Craig, and J. Sameshima, purification by sublimation, and analysis, of gall-

ium chloride, A., ii, 157.
Richards, Theodore William, and Sven Palitzsch, compressibility of aqueous solutions, especially of urethane, and the polymerisation of water, A., ii,

Richardson, Frederic William, method for the extraction and estimation of dissolved gases in water, A., ii, 167.

Richardson, W. Alfred, the origin of

septarian structure, A., ii, 238.
Richet, Charles, and Henry Cardot, action of mixtures of certain salts on the lactic acid fermentation, A., i, 368.

Richmond, Henry Droop, studies in steam distillation. VI. The possibilities and limitations of Duclaux's method for the estimation of homologous acids, A., ii, 435.

Richmond, Henry Droop, and Charles Alfred Hill, analysis of commercial "saccharin." II. Detection and estimation of impurities, A., ii, 174.

Richter, F. See Kasimir Fajans. Richter, M. M., aromatic derivatives of orthosulphurous acid, A., i, 73.

Richter, Rudolf. See Hermann Kunz-Krause.

Richter-Quittner, M., methods of blood analysis. I. Critical review of the methods for removing proteins, A., ii. 439.

methods of blood analysis. comparison between macro- and micro-methods, A., ii, 532.

Rideal, Eric Keightley, the selective combustion of carbon monoxide in hydrogen, T., 993.

Rideal, Eric Keightley, and Hugh Stott Taylor, instrument for the estimation of small quantities of carbon monoxide in hydrogen, A., ii, 200.

Riegger, Hans. See Friedrich Krüger. Rimbach, Eberhard. See H. Leo.

Rindfusz, R. E., syntheses of chromans and coumarans, A., i, 342.

Rindfusz, R. E. See also Roger Adams.

Ringer, M. See Carl Neuberg. Ringer, Wilhelm Eduard, Pekelharing's V. The inhibition of the pepsin. action of pepsin by the bile acids, A., i, 419.

Rinkes, Inne Jan, organic fluorine compounds. III., A., i, 198.

Rintoul, William, John Thomas, and Nobel's Explosives Co., improvements relating to the preparation of

amines, A., i, 388, 423.
Rippel, August, influence of varying barometric height on the course of alcoholic fermentation and on biological processes in general, A., i, 368.

Ripper, (Frl.) Lilly. See Rudolf Wegscheider.

Ritter, M., effect of an electric field on the pressure displacement and the broadening of series lines, A., ii, 378.

Rius y Miró, Antonio, electrolysis of potassium phosphate, A., ii, 63. Rius y Miró, Antonio. See also Fritz

Fichter.

See Victor Grignard. Rivat, G.

Rivett, Albert Cherbury David, method for the volumetric estimation of sulph. ates, A., ii, 295.

Rivett, Albert Cherbury David, and Edmund Arthur O'Connor, some ternary systems containing alkali oxalates and water, T., 1346.

Robert, H. See Paul Nicolardot.

Robert, Marius, a new laboratory fractionating column and the measure of its efficiency, A., ii, 266.

Roberts, Howard S., electrical apparatus for use in electrometric titrations, A., ii, 471.

Roberts, Howard S. See also J. Clyde Hostetter.

Robertson, Philip Wilfred, the melting points of the substituted amides of the normal fatty acids, T., 1210.

normal fatty acids, T., 1210.

Robertson, Thorburn Brailsford, and L. A. Ray, growth. XI. The growth, and senescence of white mice fed upon pituitary (anterior lobe) tissue, tethelin, egg lecithin or cholesterol, A., i, 234.

growth. XII. The influence of pituitary gland (anterior lobe) tissue, tethelin, egg lecithin, and cholesterol on the duration of life of the white mouse, A., i, 234.

growth. XIV. Further experiments

growth. XIV. Further experiments on the influence of tethelin on the growth of the white mouse, A., i, 234.

Robin, Paul, benzaldoxime peroxide, A., i, 592.

Robin, Paul. See also J. Bougault.

Robinson, Percy Leucock, anti-reflux device applicable to evolution methods of analysis, A., ii, 471.

of analysis, A., ii, 471.

Robinson, Robert, Francis William Kay, and British Dyes, Ltd., manufacture of N-arylthiomorpholines, A., i, 600.

Robinson, Robert. See also William Henry Perkin, jun.

Robison, Robert. See Arthur Harden. Roche. See Maurice Delort.

Roche, Bouchetal de la, the modifications produced in the spark spectra of different metals by the surrounding medium, A., ii, 309.

Rockwood, Albert William, effect of neutral salts on the activity of ptyalin, A., i, 181.

Rogers, Austin Flint, composition of bornite, A., ii, 420.

Rogers, Homer, and E. J. du Pont de Nemours & Co., preparation of diphenylamine, A., i, 528. Rogerson, Harold. See Arthur Ernest

Everest.

Rohde, Alice, method for the identification of certain carbamido-acids in the presence of amino-acids and of urea, A., i, 107.

Rohde, Alice, and Mabel Stockholm, the increase in nitrogen metabolism of the dog, following the administration of desiccated thyroid gland, A., i, 185.

Rohde, Alice, and Marion Sweeney, source of error in the use of picric acid in colorimetric estimations in biological fluids, A., ii, 84.

Rohde, Olof, automatic apparatus for gas analysis, A., ii, 421.

Rolf, Ida P. See Walter Abraham Jacobs.

Rolfes, Bernhard. See Robert Schwärz. Rolla, Luigi, thallium selenides, A., ii,

Romeo, Giovanni, modification of Victor Meyer's vapour density apparatus, A., ii, 319.

Rona, Peter, and Leonor Michaelis, adsorption of electrolytes by charcoal, A., ii, 269.

adsorption of H- and OH-ions and the ions of the heavy metals by charcoal, A., ii, 496.

Rona, Peter. See also Leonor Michaelis. Ronceray, P., double catalytic process in the oxidation of aluminium in the presence of mercury; oxidation of aluminium powder at the ordinary temperature. A., ii. 65.

temperature, A., ii, 65.

Roschier, R. H., ozonisation of apobornylene and of the different fenchenes; constitution of these hydro-

carbons, A., i, 408.

Rosemann, Max. See Alfred Perutz. Rosemont, L. Reutter de, sterilised poppy juice, A., i, 113.

Rosenheim, Arthur, and Else Loewenthal, periodic acid and periodates, A., ii, 508.

Rosenheim, Arthur, and Jacob Pinsker, zirconium alkali sulphates, A., ii, 291.

Rosenheim, Otto, biochemical changes due to environment, A., i, 141.

Rosenheim, Otto. See also William Dobinson Halliburton.

Rosenkranz, Emmy. See Walther Borsche.

Rosenmund, Karl W., a new synthesis of hydrastinine and its homologues, A., i, 280.

Rosenstein, Hedwig. See Isidor Traube. Ross, William H., and Harlan L. Trumbull, modified method for the analysis of mixtures of ethylene and acetylene, A., ii, 482.

Rothenbach, Martin. See Otto Hahn. Rothmann, W. See Georg Schroeter. Rothmund, Viktor, appearance of fogs in

chemical reactions, A., ii, 61.

Rouiller, Charles A., some metallic derivatives of ethyl thioglycollate, A., i, 310.

Royle, Frank Albert. See Arthur Lapworth.

Rozsa, Michael, the occurrence of polyhalite in the older Zechstein potassium salt deposits in relation to van't Hoff's conclusions, A., ii, 236.

Ruff, Otto, volatility, A., ii, 317.

Ruff, Otto, and Gustav Bahlau, anhydrous mercuric fluoride, A., ii, 65.

Ruff, Otto, and Bernhard Bergdahl, high temperature researches. XII. The measurement of vapour tensions at very high temperatures with some observations on the solubility of carbon in metals, A., ii, 265.

Ruff, Otto, and Susanne Mugdan, reduction of osmium tetroxide by hydrogen chloride, A., ii, 108.

Ruggli, Paul, new isomerism of the isatogens, A., i, 221.

Ruoss, colloidal cuprous oxide, A., ii,

Rupe, Hans, preparation of camphylcarbinol, A., i, 29.

Rupe, Hans, and Arthur Akermann, reduction products of hydroxy-methylenecamphor. II. Mechanism of the hydrogenation of hydroxy-methylenecamphor with hydrogen and nickel, A., i, 334.

reduction products of hydroxymethylenecamphor. III. New reactions of methylenecamphor, A., i, 335.

Rupe, Hans, Arthur Akermann, and H. Takagi, reduction products of hydroxy-

methylenecamphor, A., i, 29.

Rupe, Hans, and C. A. Kloppenburg, optically active ketones; ketones of 1:2:2:3-tetramethylcyclopentane, i, 539.

Rupe, Hans, Markus Warder, and Kunihiko Takagi, camphor ketones, A., i, 27.

Rupp, Erwin, new method for the preparation of ammonium iodide, A., ii, 283.

Rupp, Erwin, and Franz Lehmann, titration of sugars, A., ii, 434.

Rusconi, Armando, anodic peroxidation of manganese in an acid medium in presence of silver salts, A., ii, 445.

Russell, J. See Otto Maass.

Ruszig, Friedrich, composition of pyrocresoles and their relationship to coal tar constituents, A., i, 168.

Rutherford, (Sir) Ernest, collision of α-particles with light atoms. I.

Hydrogen, A., ii, 256. collision of α-particles with light atoms. II. Velocity of the hydrowith light gen atom, A., ii, 258.

collisions of a-particles with light III. Nitrogen and oxygen atoms. atoms, A., ii, 259.

Rutherford, (Sir) Ernest, collisions of α-particles with light atoms. IV. An anomalous effect in nitrogen, A., ii, 260.

Ruzicka, Leopold, preparation of polymethylcyclohexenones of the irone type, A., i, 209.

relations between the ionones and irone, A., i, 540.

Ruzicka, Leopold, and V. Fornasir, synthesis of linalool, A., i, 193. synthetic investigations in the quinine series. I. Synthesis of \$\beta\$-collidine

[4-methyl-3-ethylpyridine], A., i, 550. Ryan, Hugh, Joseph Algar, and Philip

O'Connell, synthesis of some new substantive dyes derived from benzidinesulphone, A., i, 45.

Ryan, Hugh, and James J. Drumm, the nitro-derivatives of phenyl-βnaphthylamine, A., i, 324.

Ryan, Hugh, and Thomas Glover, nitroderivatives of diphenylamine, A., i, 13.

Ryan, Hugh, and William M. O'Riordan, α-, β- and γ-trinitrotoluenes, A., i, 477.

action of bromine on some derivatives of diphenylamine, A., i, 480.

Ryan, Hugh, and Phyllis Ryan, action of nitric acid and nitrous acid on diphenylamine. I. and II., A., i, 481, 482.

Ryan, Phyllis. See Hugh Ryan. Ryder, H. M., quantitative analysis of small quantities of gases, A., ii, 30.

Sabalitschka, Th., transformation of acid salts of dibasic acids in aqueous solution. III., A., i, 433.

[a case of poisoning by methyl alcohol and a simple method of distinguishing between methyl alcohol and absolute ethyl alcohol or spirit, A., ii, 249.

transformation of acid salts of dibasic acids in aqueous solutions into normal (neutral) salts and free acids. II., A., ii, 282.

Sabatier, Paul, and Georges Gaudion, catalytic dehydrogenation by nickel in the presence of hydrogen, A., i, 199.

Sabatier, Paul, and Alphonse Mailhe, the catalytic formation of alkyl chlorides from primary alcohols, A., i, 430.

the catalytic reduction of halogenated acetic esters, A., i, 568.

Sabatier, Paul, Alphonse Mailhe, and Georges Gaudion, action of finely divided metals on pinene vapour, A., i, 336.

Sabatini, Venturino, volcanic explo-I. Explosive eruptions and their phases; combustion of hydrogen, A., ii, 162.

volcanic explosions. II. Calculations on the combustion of hydrogen; comparison with ordinary explosives, A., ii, 162.

Saccardi, Pietro, pyrrole and melanuria, A., i, 421.

ticharinfabrik Aktien - Gesellschaft vorm. Fahlberg, List, & Co., prepara-tion of mercury derivatives of phthal-Saccharinfabrik eins and analogous compounds, A., i, 124.

Sahlbom, Naima, analyses of Swedish glauconites, A., ii, 164.

Saillard, Emile, solubility of lactose; action of acids and alkalis on lactose, A., i, 575.

Sakellarios, Euklid. See Heinrich Wie-

Salkowski, Ernst [Leopold], carbohydrate content of lichens and the influence of chlorides on alcoholic fermentation, A., i, 242.

the origin of formic acid in the organ-

ism, A., i, 298.

detection of methyl alcohol, A., ii, 249. Salkowski, Ernst, and H. Salkowski, partition of the benzene derivatives and the benzene carbon in the protein molecule, A., i, 502.

Salkowski, H. See Ernst Salkowski. Sallinger, Hermann, the supposed diastatic properties of formaldehyde, A., i, 253.

predominating influence of the degree of dispersion of starch solutions on the so-called starch coagulation, A., i. 575.

Salomon, C., the colorimetric estimation of sugar in the blood by the reduction of pieric acid, A., ii, 84.

Salomon, Carry. See Otto Diels.
Salomon, Hans, detection of quinine,
A., ii, 87.

Salomon, Hans, and Rudolf Diehl, analysis of cows' milk, particularly the estimation of lactose, A., ii, 203.

Samec, Maximilian, plant colloids. VII. Diastase action, A., i, 472. meshima, J. See Theodore William

Sameshima, J. Richards.

Samsonow, Alexander von, depolarisers of the Becquerel effect, A., ii, 91.

Sanchez, Juan A., identification of pharmaceutical disulphones, sulphonal, trional, and tetronal, A., ii, 440.

Sander, A., method for the identification of sulphur-oxygen compounds, A., ii, 241.

Sandmeyer, Traugott, oximinoacetanilides and their condensation to isatins, A., i, 318.

Håkan, II-10-bromophen-Sandqvist, anthrene-3- or -6-sulphonic acid, A., i, 120.

I-10-chlorophenanthrene-3sulphonic acid and 10-chlorophenanthrene, A., i, 121.

Sandqvist, Hakan, and A. Hagelin, mono- and di-chlorophenanthrenes, A., i, 11.

Sands, C. E., and H. H. Bartlett, the flavones of rhus, A., i, 243.
Sanfourche, André, the "Curie point" of

pure iron and ferrosilicon, A., ii, 10. the oxidation of nitric oxide by dry air, A., ii, 149.

the cycle of oxidation of nitric oxide in the presence of water, A., ii, 150.

Sanfourche, André. See also A. Boutin, and Pierre Jolibois.

Sarjant, Reginald J. See William Arthur Bone.

Satterly, John, and R. T. Elworthy, radioactivity of some Canadian mineral springs, A., ii, 41.
Satterly, John, and John Cunningham

McLennan, the radioactivity of the natural gases of Canada, A., ii, 312. Saucken, S. von. See Eilhard Alfred Mitscherlich.

Savelsberg, Maria. See Julius Bredt. Saxton, Blair, recrystallisation of nitre cake, A., ii, 24.

Sayce, Edna D., some determinations of the heat conductivity of selenium, A., ii, 316.

agliarini, Gino, organic salts of bivalent chromium, A., i, 75. Scagliarini,

Scal, Clair. See Edouard Urbain. Scales, F. M., the cuprous chloride-

iodine method for reducing sugars simplified, A., ii, 435.

Schaarschmidt, Alfred, and Johann Herzenberg, rearrangement reactions in the anthraquinonefluorenone series, A., i, 26.

Schadinger, Rudolf. See Robert Kremann.

Schäfer, A. See Constant Griebel.

Schaefer, Clemens, and Martha Schubert, rôle of water of crystallisation and the structure of alums, A., ii, 516.

Schaefer, Konrad, and Willy Köhler, optical researches on the constitution of sulphurous acid, its salts and esters, A., ii, 38.

optical investigation of the constitution of some oxygen acids of chlorine and bromine and of their esters and salts, A., ii, 207.

Schaller, Waldemar Theodore, nonidentity of the copper silicates, plancheite and shattuckite, A., ii,

Schamelhout, identification and assay of pharmaceutical disulphones, A., ii, 440.

Schantz, Karl. See Theodor Paul. Schaum, Karl [Ferdinand] [Franz], mechanism of assimilation processes, A., i, 111.

Schaumann, H. See Emil Abderhalden. Scheel, Karl, and Wilhelm Heuse, the specific heat of air at ordinary and low temperatures, A., ii, 494.

Scheffer, Frans Eppo Cornelis, phenylcarbamic acid and its homologues, A., i, 263.

metastable unmixing and the classification of binary systems, A., ii, 401.

Scheffer, Frans Eppo Cornelis, and G. Meijer, indirect analysis of gas hydrates by a thermodynamic method and its application to the hydrate of hydrogen sulphide. I. and II., A., ii, 502.

Scheibe, Günther. See Otto Fischer. Schellhorn, Bernhard. See Carl

Dietrich Harries. Schenck, H. E., blue copper oxide,

A., ii, 286.

Schenck, Martin, bile acids. V., A., i,

Schenck, Rudolf, and Agnes Albers, the chemical equilibrium between sulphide and the products of the roasting process, A., ii, 222.

Scheringa, Klaas, adsorption of metals from drinking water by glass, A., ii, 64.

the surface condensation (adsorption) of water-vapour and gases and the errors in weighing arising there-

from, A., ii, 269. adsorption by colloidal copper sulphide, A., ii, 367.

Scherpenberg, A. L. van, correction of an error relating to a trihydroxyxanthone, A., i, 596.

Scherrer, P., estimation of the size and internal structure of colloidal particles by means of Röntgen rays, A., ii, 274.

Scherrer, P. See : Schibsted, Helgs. See also Peter Debye. See Karl Andreas Hofmann.

Schiff, F. See Josef Herzig.

Schilling, H., gas washing flask, especially for use in the estimation of sulphur dioxide in flue gases, A., ii, 225.

Schimank, Hans. See Walther Brieger Schlenk, Wilhelm, and Egon Meyer, p-quinodimethanes, A., i, 200.

Schlesinger, Hermann I., and R. D. IV. Con-Mullinix, conductivity. ductivity of alkaline earth formates in anhydrous formic acid, A., ii, 91.

Schlesinger, Hermann I., R.Mullinix, and Sergei Popoff, manganates and permanganates. I. Course of the reaction between manganese dioxide, potassium hydroxide, and oxygen, and the manufacture of potassium manganate, A., ii, 233.

Schloesing, Jean Jacques Théophile, obituary notice of, T., 440.

Schmidt, Carl L. A., and D. R. Hoagland, table of PH, H, and OH' values corresponding with electromotive forces determined in hydrogen electrode measurements, with a

bibliography, A., ii, 492. Schmidt, Elsa, a new method for a separate extraction of hydrastine and borberine from golden seal on a large scale, A., i, 414.

Schmidt, Erich, constitution of tetranitromethane, A., i, 248.

Schmidt, Erich, and Rudolf Wilkendorf, some derivatives of trimethylene glycol, A., i, 249.

Schmidt, Ernst, degradation of scopoline, A., i, 34.

Schmidt, Hans, laws of the capillary

rise in porous paper, A., ii, 185. Schmidt, Hans. See also O. Allemann. Schmidt, K. W. See Gustav Tammann.

Schmitz, Friedrich, regularities in the chemical action of gases on iron and its compounds with non-metals at high temperatures, A., ii, 415.

Schmiz, Eduard, harmony of the atomic weights, A., ii, 460. Schmutz, René. See André Kling.

Schneider, Wilhelm. See Franz Fischer. Schniderschitsch, Nobert. See Robert Kremann.

Schoeller, Walter R., and A. R. Powell, rapid method for estimating nickel and cobalt in ores and alloys. III., A., ii, 373.

Scholl, C. E., rapid method of estimating uranium in carnotite, A., ii, 481.

Scholl, Roland, constitution of hydroxyand hydroxylamino - anthraquinone salts, A., i, 332.

Scholl, Roland, and Alois Zinke, action of potassium ferricyanide on alizarin in alkaline solution and constitution of salts of hydroxyanthraquinones, A., i, 25.

Scholl, Roland, and Alois Zinke, action of potassium ferricyanide on alizarin alkaline solution. II., A., i, 406.

Schollenberger, Charles J., organic phosphorus of soil; experimental work on methods for extraction and determination, A., ii, 168.

Scholtz, Max, the three phonacylaminobenzoic acids, A., i, 95.

Schoorl, Nicolaas, rational approximated atomic weights for use in chemical analysis, A., ii, 72. the products of the reaction of different

metals with quinosol, A., ii, 201.

Schoorl, Nicolaas, and (Miss) A. Regenbogen, the solubility of iodine in water-alcohol mixtures, A., ii, 364.

Schotte, Herbert. See Karl Thomas.

Schotz, Schachno Peisach. See Percy Edwin Spielmann.

Schowalter, E., titration of sugars by Rupp and Lehmann's method, A., ii,

Schramm, Edward, estimation of cadmium by the hydrogen sulphide

method, A., ii, 170.
Schramm, W. H., nature of the gas evolved when fused sodium hydroxide is dissolved in water, A., ii, 153. .

Schroeter, Emmy. See Georg Schroeter. Schroeter, Georg, R. von Butlar-Brandenfels, O. Carlé, G. Diesselhorst, W. Dorn, C. Fresenius, A. Gluschke, G. Herzberg, E. Kindermann, G. Koch, Th. Mariam. W. Rothmann, Emmy Schroeter, and W. Sondag, methionic [methanedisulphonic] acid and its applications in syntheses, A., i, 516.

Schroeter, Georg, L. Lichtenstadt, and D. Irineu, constitution of substances from guaiacum resin. I., A., i, 84.

Schryver, Samuel Barnett, and Nita E. Speer, investigations dealing with the state of aggregation. IV. The flocculation of colloids with salts containing univalent organic ions, A., ii, 140.

Schubert, E. See H. Elias.

Schubert, Martha. See Clemens Schaefer.

Schükri, Jussuf. See Martin Gildemeister.

Schüler, Walther, and Arno Wilhelm, sodium hydrogen sulphite crystals

(NaHSO<sub>3</sub>, 3H<sub>2</sub>O), A., ii, 341. Schürmann, Grete. See Theodor Zincke. Schütte, H. See Karl von Auwers. Schuller, A. See Franz Halla.

Schulz, J. A. See John O. Halverson. Schulze Alfred, vapour pressure of

acetone-chloroform mixtures, A., ii, 219.

Schulze, Alfred, dependence of the vapour tension of benzene-toluene mixtures on the temperature, A., ii, 390.

Schumm, Otto, hæmatoporphyria congenita. II., A., i, 422.

Schuppli, Otto, estimation of lactic acid by oxidation, A., ii, 528.

Schuppli, Otto. See also Richard Willstätter.

Schur, Heinrich, and Franz Urban, estimation of the carbamide fraction in blood, A., ii, 87.

Schwarz, Robert, ammonium silicate. II. Ammonia and silicoformic acid [dioxodisiloxane], A., ii, 283. estimation of iron in iron ores by

means of permanganate, A., ii, 480.

Schwarz, Robert, and Bernhard Rolfes, estimation of iron in ores by permanganate, A., ii, 170.

Schwarze, loosening of fixed glass parts (stopcocks, etc.) by means of hydrogen peroxide, A., ii, 280.

Schweizer, Karl, preparation of glycerol by fermentation, A., i, 239.

Schweiz. Serum- & Impfinstitut, preparation of mercurous amino-compounds, A., i, 44.

Scott, J. W. See Alvin Sawyer Wheeler.

Scott, Leonard C. See Rollin C. Myers. Scott, Robert G. See Leroy S. Palmer. Scott, Robert G. Scott, Sewell E. See Philip Embury

Browning. Scott, W. B. See W. L. Jennings. Sebelius, Hugo. See Hjalmar Johansson.

Šebor, J. See Julius Stoklasa.

Seelig, Paul. See Alfred Stock. Sehler, Paul. See Emil Knoevenagel.

Sen, Jnanendra Nath. See Prafulla Chandra Mitter.

Sen, Nagendra Nath. Sce Jñanendra Nath Mukherjee.

See (Sir) Pra-Sen, Prafulla Kumar. fulla Chandra Rây.

Sénéchal, A. See F. Bourion. Senez, Ch. See Adolphe Besson.

Senier, Alfred, obituary notice of, T.,

Senior, James K. See John H. Northrup.

See Bertram Sequeira, James Harry. Blount.

Serre, J. See E. Canals.

Šetlík, Ivan. See Jaroslav Milbauer.

Shannon, Earl V., the Pelham asbestos mine, Massachusetts, A., ii, 238.

Shaw, A. Norman, sensitive bath thermostat, A., ii, 47.

Shearer, C., the action of electrolytes on the electrical conductivity of the bacterial cell and their effect on the rate of migration of these cells in an electric field, A., i, 367.

Sherman, Henry Clapp, A. W. Thomas, and M. E. Baldwin, influence of hydrogen-ion concentration on the enzymic activity of three typical

amylases, A., i, 181.

Sherman, Henry Clapp, Florence Walker, and Mary L. Caldwell, action of enzymes on starches of different origin, A., i, 559.

Sherrick, J. L. See Harry B. Weiser. Sherwin, Carl P., comparative metabolism of certain aromatic acids. II. Fate of p-hydroxybenzoic acid and p hydroxyphenylacetic acid in the

organism of the monkey, A., i, 104. Sherwood, R. G., effects of heat on

chemical glassware, A., ii, 28.
Sherwood, S. F. See Claude S. Hudson.
Shibata, Keita, Yuji Shibata, and Itizo Kasiwagi, anthocyanins; colour variation in anthocyanins, A., i, 166.

Shibata, Yuji, Kurazo Fukagawa, and Jun Asado, absorption spectra of aqueous solutions of colourless metallic complex salts, A., ii, 381.

Shibata, Yuji. See also Keita Shibata. Shimizu, T. See William Duane.

Shōji, Rinnosuke, coagulation. I. The velocity of gelation and hydrolysis of gelatin sol, A., ii, 498.

Shreve, Edith B., absorption of water by

gelatin, A., i, 228. Shutt, Frank T., and R. L. Dorrance, nitrogen compounds in rain and snow, A., i, 116.

Sidgwiek, Nevil Vincent, and Bertram Lambert, improvements in the manufacture of diethyl and dimethyl ketones, A., i, 196.

Siebert, Ernst. See Daniel Vorländer. bahn, Manne, precision-measure-ments in the X-ray spectra, A., ii, Siegbahn,

precision-measurements in the X-ray spectra. II. The X-ray spectrum of tungsten, A., ii, 488.

Siegbahn, Manne, and Edv. Jönsson, limiting absorption frequencies of Röntgen rays by the heavier elements, particularly the rare earths, A., ii, 311.

Siegbahn, Manne, and A. B. Leide, precision-measurements in the X-ray spectra. III. An X-ray spectrograph for medium wave-lengths, A., ii, 489.

Siemssen, J. A., triboluminescence of uranium compounds, A., ii, 346.

Silberstein, L., dispersion of diamond, A., ii, 177.

Simmermacher, W. See Theodor Pfeiffer. Simmonds, Nina. See Elmer Verner McCollum.

Simon, A., and C. Pagel, quick estimation of albumin (in urine), A., ii,

Simon, Louis Jacques, and Georges Chavanne, preparation of monochloroacetic acid, A., i, 467.

Louis Jacques. See also Ch. Boulin, Georges Chavanne, J. Guyot, R. Levaillant, and Ch. Mauguin.

Simpson, Miriam E. See William Crowell Bray.

Simpson, T. C. See J. S. Laird. Singh, Bawa Kartar, and Jatindra Kumar Mazumder, studies on the dependence of optical rotatory power on chemical constitution. I. Position-isomerism and optical activity of naphthyliminocamphors and derivatives of phenyliminocamphor, T., 566.

condensation of deoxybenzoin with aromatic aldehydes, T., 821.

Singh, Thakur Mahadeo, toxicity of "alkali" salts, A., i, 374.

Sisson, George, and J. S. Edmondson, the extraction of thallium from pyrites flue dust, A., ii, 193.

Sjögren, Hj., composition of tourmaline from Uto, Sweden, A., ii, 164.

Sjollema, Bouwe, estimation of sugar in milk and urine, A., ii, 84.

Skelton, E. W. See John Jacob Fox. Skinner, W. W. See W. F. Baughman. Skirrow, Frederick William, oxidation

of phenols by gaseous oxygen and the catalytic effect of metals, A., i, 528.

Skrabal, Anton, relationship of the constants of formation and hydrolysis of esters of symmetrical dicarboxylic acids, A., ii, 143.

Skrabal, Anton, and Anton Matievic, hydrolysis of ethyl oxalate with alkali, A., ii, 144.

Skrabal, Anton, and (Frl.) Danica Mrazek, consecutive reactions. IV. Relationships of the constants in the acid hydrolysis of esters of oxalic and malonic acids, A., ii, 57.

consecutive reactions. V. Dynamics of the oxalic ester equilibrium, A., ii, 144.

Skraup, Siegfried, addition reactions and ring fission of certain heterocyclic compounds, A., i, 598.

Skutetzky, Alex., and M. Klaften, value of some new colour reactions in urine, A., ii, 356.

See Rudolf Weg-Skutezky, Robert. scheider.

Slade, Roland Edgar, and Geoffrey Isherwood Higson, equilibria in the reduction of oxides by carbon, T.,

the dissociation pressures of some nitrides, T., 215.

Slyke, Donald D. van, estimation of carbon dioxide in carbonates, A.,

Slyke, Donald D. van, and John J. Donleavy, a simplification of the McLean-van Slyke method for estima-

tion of plasma chlorides, A., ii, 239. Slyke, Donald D. van, and Reginald Fitz, estimation of \$\beta\$-hydroxybutyric acid, acetoacetic acid, and acetone in blood, A., ii, 436.

Slyke, Donald D. van, Edgar Stillman, and Glenn E. Cullen, acidosis. XIII. A method for titrating the bicarbonate content of the plasma, A., ii,

Slyke, Lucius Lincoln van, and Alfred W. Bosworth, the state of proteins in

cow's milk, A., i, 188.

Small, James Craig, preparation of scluble starch, A., i, 149.

estimation of soluble starch in the presence of starch and its hydrolytic cleavage products, A., ii, 172.

Smekal, Adolf, the so-called first quantum theory of Planck; the quantum theory of paramagnetism, A., ii, 94.

Smekal, Adolf. See also Fritz Reiche. Smith, Arthur H. See Barnett Cohen.

Smith, C. R., mutarotation of gelatin and its significance in gelatinisation, A., i, 179.

Smith, Donald P., occlusion of hydrogen by the metallic elements and its relation to magnetic properties, A., ii, 269.

Smith, George Frederick Herbert, and George Thurland Prior, semseyite from

Dumfriesshire, A., ii, 517.
Smith, George McPhail, and Edwin Arthur Rees, heterogeneous equilibria between aqueous and metallic solutions; the interaction of mixed salt solutions and liquid amalgams. A study of the ionisation relations of potassium and strontium chlorides in mixtures, A., ii, 53.

Smith, Henry George, the resin of the outer bark of Melaleuca uncinata, A., i, 426.

Smith, Lennart, constitution of the isoatropic acids, A., i, 486.

Smits, Andreas, electrochemical behaviour of metals, A., ii, 8.

Smits, Andreas, phenomenon of electrical supertension. I. and II., A., ii, 91, 387.

anodic polarisation. II., A., ii, 491. Smits, Andreas, and V. S. F. Berckmans, the system : ethyl ether-chloroform, A., i, 118.

Smits, Andreas, and J. M. Bijvoet, the system: iron-oxygen, A., ii, 103.

significance of the Volta effect in measurements of electromotive equilibria, A., ii, 131.

Smits, Andreas, and Cornelis Adriaan Lobry de Bruyn, periodic passivity of iron. II., A., ii, 92.

Smits, Andreas, and Kurd Endell, the system : SiO<sub>2</sub>, A., ii, 281.

Smoll, A. E., recovery of platinum and alcohol from potassium estimations, A., ii, 293.

Smyth, Harry De W. See Richard C, Tolman.

Snyder, R. S., the estimation of total nitrogen in soils containing rather large amounts of nitrates, A., ii, 295.

Snyder, R. S., and Ralph S. Potter, soluble non-protein nitrogen of soil, A., i, 376.

Snyder, R. S. See also Ralph S. Potter. Société Chimique des Usines du Rhône, manufacture of ethylidene diacetate, A., i, 147.

process for the preparation of primary alcohols, A., i, 483.

Society of Chemical Industry in Basle, preparation of acyl derivatives of p-aminophenyl ether, A., i, 397.

preparation of 1:6-dihydroxynaphthoyl-o-benzoic acid and its salts, A., i, 403.

manufacture of the organic phosphorus reserve compound of green plants, and salts thereof, A., i, 504.

Scddy, Frederick, the conception of the chemical element as enlarged by the study of radioactive change, T., 1.

the relation between uranium and radium. VII., A., ii, 443.
Soderstrom, G. F. See H. V. Atkinson.

Söderbaum, H. G., action of ammonium salts on plants. I., A., i, 60. manuring experiments with "kali-kalk," A., i, 376.

Sörensen, Sören Peter Lauritz, J. A. Christiansen, Margrethe Höyrup, S. Goldschmidt, and Sven Palitzsch, proteins. V. Osmotic pressure of ovalbumin solutions, A., i, 178.

Sörensen, Sören Peter Lauritz, and Margrethe Höyrup, proteins. Preparation of ovalbumin solutions of well-defined composition, and the analytical methods used, A., i, 175.

proteins. III. Composition and properties of ovalbumin separated in crystalline form by means of ammonium sulphate, A., i, 177.

IV. State of equilibrium between crystallised ovalbumin and surrounding mother liquor, and the applicability of Gibbs's phase rule

to such systems, A., i, 177. Sörensen, Sören Peter Lauritz, Margrethe Höyrup, Jenny Hempel, and Sven Palitzsch, proteins. II. Capacity of ovalbumin to combine with acids or bases, A., i, 176.

Solly, R. H., and George Thurland Prior, a lead-grey, fibrous mineral from Binn, Switzerland, A., ii, 516.

Somieski, Carl. See Alfred Stock. Sommerfeld, A. See Walther Kossel. Sondag, W. See Georg Schroeter. Sonn, Adolf, 4-Phenylcoumarins.

A., i, 92. some derivatives of phloroglucinol,

A., i, 275. attempted synthesis of fisetol, A., i,

Soyer, J., detection and estimation of

hydrogen phosphide in hydrogen, A., ii, 32.

Späth, Ernst, constitution of cytisine, A., i, 451.

synthesis of cytisoline, A., i, 453. the anhalonium [cactus] alkaloids. I.

Anhaline and mezcaline, A., i, 548. Speer, Nita E. See Samuel Barnett Schryver.

Spegazzini, Carolina Etile, Carnot's method for the estimation of potassium salts, A., ii, 79.

Spek, Jac. van der. See Hugo Rudolph Kruyt.

Spencer, Leonard James, turite (= turgite) and other iron-ores from Nova Scotia, A., ii, 236. Spengel, A. See Emil Ramann.

Speyer, Edmund. See Martin Freund. Spielmann, Percy Edwin, and F. Butler Jones, estimation of carbon disulphide; a critical examination of the various methods usually employed, A., ii, 372.

Spielmann, Percy Edwin, and Schachno Peisach Schotz, estimation of thiophen, A., ii, 433.

Spinner, Hans. See Emil Abderhalden, and Martin Onslow Forster.

Spiro, Karl, the action of salts, A., ii, 223.

Spiro, Karl. See also Wilhelm Löffler. Spreckels, Elisabeth, nitration of benzotrichloride, A., i, 263.

Spreckels, Elisabeth. See also Daniel Vorländer.

Springer, J. W., volumetric estimation of phosphoric acid by the Pincus method, as applied to the estimation of magnesium, A., ii, 350.

Spritzmann. M. See J. V. Dubsky. Stang, Adolf. See Emil Knoevenagel. Stanisch, Theophil. See Fritz Fichter. Stark, Charles R., and William Maurice

Dehn, salts of helianthin, A., i, 44. Stark, Johannes, effect of an electric field on spectrum lines. VIII. New principal series of helium lines which appear in the electric field, A., ii, 37.

ionisation by canal rays, A., ii, 262.

Stark, Johannes, O. Hardtke, and G. Liebert, effect of an electric field on spectrum lines. VII. The Fowler helium series, A., ii, 37. Staudacher, Max. See Otto Wallach.

Staudinger, Hermann, Karl Miescher, and E. Schlenker, nitrones and nitrenes, A., i, 584.

Stearn, Allen E. See Richard C. Tol-

Steel, Thos., volumetric estimation of barium, A., ii, 80.

Steele, L. L. See Elmer Peter Kohler. Steenbergen, H. D., the elimination or

the volume of a precipitate, A., ii, 75. Steenbock, H., and E. G. Gross, creatin-uria. I. Exogenous origin of urinary creatine, A., i, 107.
Stehle, Raymond L., some data concern-

ing the alleged relation of catalase to animal oxidations, A., i, 561.

Steiger, George, the precipitation of zirconium phosphate, A., ii, 82.

Steiger, Heinrich. See Fritz Fichter. Steinau, R. See H. Hampel.

Steinle, Rudolf. See Emil Knoevenagel. Stender, (Frl.) Hedwig. See Heinrich Wieland.

Stenius, J. A., solvent action of dilute citric and nitric acids on rock phosphate, A., ii, 199.

Stenström, W., investigation of Röntgen spectra. M-series, A., ii, 90.

Stephenson, Herbert Frederick, effect of a film of oil on the aeration of water, A., ii, 364.

Stern, Otto, molecular theory of the vapour pressure of solid substances and its significance in the calculation of chemical constants, A., ii, 219.

Stern, Otto, and Max Volmer, are the divergencies of the atomic weights from whole numbers to be explained by isotopy? A., ii, 392.

Steubing, Walter, changes in spectrum intensity and weakening of the iodine fluorescence by means of a magnetic

field, A., ii, 128.

Stewart, Alfred Walter. See Donald Neil McArthur.

Stewart, G. R., and John S. Burd, course of reaction in explosions of dilute carbon disulphide-air mixtures, A., ii, 153.

Stewart, J. K.See Louis A. Mikeska, and Louis Elsberg Wise.

Stewart, U. P., new contact test for albumin in urine, A., ii, 88.

Steyer, Hermann. See Carl Paal.

Stiles, Walter, and Franklin Kidd, the influence of external concentration on the position of the equilibrium attained in the intake of salts by plant cells, A., i, 240. comparative rate of absorption of

various salts by plant tissue [carrot and potato], A., i, 371.

Stillman, Edgar, acidosis. XVI. Estimations of bicarbonate in the blood plasma of different species by the titration and carbon dioxide capacity methods, A., ii, 477.

Stillman, Edgar. See also Donald D.

van Slyke.

Stine, C. M., nitro-compounds for use in

explosives, A., i, 590.

Stobbe, Hans, the constitution of the truxillic acids and of truxone, A., i, 329.

Stobbe, Hans, Eduard Faerber, and Jussik Pogossianz, action of light on allo- and iso-cinnamic acids, A., i, 273. Stock, Alfred, self-acting mercury pump,

A., ii, 462. greaseless valve for gas work, A., ii,

462.

Stock, Alfred, and Paul Seelig, analyses of mixtures of vapours containing carbon monoxide, carbon dioxide, carbonyl sulphide and carbon disulphide and similar mixtures of gases, A., ii, 245.

Stock, Alfred, Paul Seelig, and W. Ottmann, thermal decomposition of carbonyl sulphide, A., ii, 230.

Stock, Alfred, and Carl Somieski, sili-VI. Chlorination and con hydrides. methylation of monosilane, A., i, 260.

Stockholm, Mabel. See Alice Rohde. Stoermer, Richard, and G. Foerster, truxillic acids and truxones, A., i, 444.

Stötzner, Wilhelm. See Emil Knoevenagel.

Stoklasa, Julius, J. Sebor, Wenzel Zdobnický, F. Tymich, O. Horák, Antonín Němec, and J. Cwach, the influence of aluminium on the germination of seeds and the development of plants, A., i, 109.

Straub, Hermann, and Klothilde Meier, analysis of blood gases. II. Hæmoglobin as an indicator; the theory of

indicators, A., i, 53.
Straus, Fritz, W. Heitz, and Carl Muffat, phenomena of luminescence in pyrazoline derivatives, A., i, 41.

Strebinger, Robert, quantitative estimation of ions by microanalytical methods. I., A., ii, 34.

estimation of the oxygen content of organic substances, A., ii, 350.

Stritar, M. J., allyl alcohol, A., i, 118. Strohschneider, Wolfgang. See Robert Kremann.

Stroup, Freeman P., test to distinguish between caffeine and theobromine, A., ii, 530.

Strutt, (the Hon.) Robert John, light scattered by gases; its polarisation and intensity, A., ii, 5.

the line spectrum of sodium as excited by fluorescence, A., ii, 483.

Stuber, Bernhard, preparation of derivatives of cystine, soluble in water, A., i, 6.

Stura, Maria, crystallography of phenyl benzoate, A., i, 591.

Sturm, W., measurement of concentration of hydrogen ions and a new form of calomel electrode, A., ii, 43. Sturm, W. See also J. Hudig.

Sucharda, Ed. See Stefan von Niementowski.

Sugiura, Kanematsu, and Stanley Rossiter Benedict, action of radium emanation on the vitamines of yeast, A., i, 613.

Suida, Hermann, polymerisation phenomena in the simple monoanilino-

benzoquinones, A., i, 81. Suida, Hermann, and Wilhelm Suida,

anilinoquinones, A., i, 79. Suida, Hermann. See also Guido Meyer. Suida, Wilhelm. See Hermann Suida.

Sumner, James B., and Aaron Bodansky, rapid method for the estimation of urea in urine, A., ii, 304.

Sundius, Nils, connexion between the optical constants and chemical composition of the scapolites, A., ii, 163.

scapolite from the Kiruna district, Swedish Lapland, A., ii, 237.

CXVI. ii.

Sureda y Blanes, J., constitution of the hydrazone of benzaldehyde, A., i,

interaction of aliphatic diazo-compounds and diphenylketen, A., i,

Suzuki, Nobuyoshi, metabolism of the furan and hydrofuran derivatives in the animal body, A., i, 366.

Svanberg, Olof. See Hans von Euler. Svedberg, Theodor, electrical synthesis of colloids, A., ii 186.

Svedberg, Theodor, and Hugo Anderson, methods of measuring electric cataphoresis, A., ii, 315.

Swanson, C. O., and E. L. Tague, estimation of acidity and titratable

nitrogen in wheat with the hydrogen electrode, A., ii, 176.

Swarts, Frédéric, ethyl fluorobromopropyl ether and ethyl fluoroallyl ether, A., i, 194.

action of magnesium phenyl bromide on polyhalogenated derivatives of ethane, A., i, 247.

fluorocinnamic acid, A., i, 400. thermochemistry of organic fluorine compounds, A., ii, 317.

Sweeney, Marion. See Alice Rohde.

Szarvassi, Arthur, the atom model of Bohr, A., ii, 20.

Szilard, B., a new electrometer for the measurement of radioactivity, A., ii,

Szymanowitz, Raymond, elements in the order of their atomic weight, A., ii, 405.

## т.

Taboury, Félix, and Marcel Godchot, a new method of obtaining bicyclic ketones, A., i, 447.

Taboury, Félix. See also Robert de Forcrand.

Tague, E. L. See C. O. Swanson.

Takagi, H. See Hans Rupe.

Takagi, Kunihiko. See Hans Rupe. Takahashi, Eiji, new sugar isolated from a sea-weed, A., i, 387.
Takahashi, Katsumi, linoleic acid and

its derivatives, A., i, 468.

Takamine, Toshio, and Noboru Kokubu, effect of an electric field on the spectrum lines of helium. II. and III., A., ii, 125, 379.

effect of an electric field on the spectrum lines of argon, A., ii,

effect of an electric field on the spectrum lines of hydrogen. II., A., ii, 379.

Takamine, Toshio, and Noboru Kokubu, effect of an electric field on the spectrum lines of calcium and magnesium, A., ii, 380. Tambor, Josef, and Hans Gubler, forma-

tion of flavone or coumarone derivatives from hydroxychalkones, A., i,

Tammann, Gustav [Heinrich Johann Apollon], recrystallisation in metals. A., ii, 273.

solubility of hydrogen in palladium

mixed crystals, A., ii, 293. isomeric alloys, A., ii, 394.

alteration in the chemical behaviour of metals and their mixed crystals by mechanical working, A., ii, 395. chemical and galvanic properties of mixed crystals and their atomic structure, A., ii, 398. distribution of two kinds of atoms

in the regular Frankenheim-Bravais space lattices, A., ii, 406.

meteoric nickel-iron and the polymorphism of carbon-iron, A., ii,

417.

Tammann, Gustav, and K. W. Schmidt, atomic structures of normixed crystals, A., ii, 396. non-metallic

Tanaka, Ushio. See Buhachiro Tasaki. Tank, Franz, series spectra according to the Bohr atom model, A., ii, 378.

Tasaki, Buhachiro, and Ushio Tanaka, toxic constituents in the bark of Robinia pseudacacia, L., A., i, 244. Tasaki, S. See R. Tsuchihashi.

Taylor, Charles Somers, the presence of aconitic acid in sugar-cane juice and a new reaction for the detection of the

acid, T., 886. Taylor, Guy B., and Julian H. Capps, effect of phosphine and hydrogen sulphide on the oxidation of ammonia

to nitric acid, A., ii, 106. Taylor, Hugh Stott. See Eric Keightley Rideal.

Taylor, (Miss) Millicent. See James William McBain.

Tcherniac, Joseph, thiocyanoacetone and its derivatives and isomerides, T., 1071.

an automatic extraction apparatus, T., 1090.

preparation of hydroxy-alkyl ethers of p-acetylaminophenol or substitution products thereof, A., i, 14.

Teichmann, E., and W. Nagel, detoxication of inhaled hydrogen cyanide by sodium thiosulphate, A., i, 301.

Telle, Fernand, separation and estimation of uric acid and other purines in urine, A., ii, 123.

Teräsvuori. See Ossian Aschan.

Terni, Alfredo, and P. Malaguti, new method for the estimation of chromium, A., ii, 481.

Testoni, Giuseppe, quantitative colorimetric estimation of pentosans in meal, A., ii, 122.

Teudt, Heinrich, the origin of odour in the molecules of odoriferous substances, A., i, 607.

the derivation of the periodic system of the chemical elements from the electron theory, A., ii, 330.

Teutscher, Heinrich, action of the isomeric chloromethylanilines on benzo- and tolu-quinones, A., i, 83.

Thannhauser, Siegfried J., and Gustav Dorfmüller, nuclein metabolism. VI. The cleavage of nucleotides by means of hot aqueous picric acid solutions; isolation of crystalline cytidinephosphoric acid, A., i, 228.

Thiel, Alfred, behaviour of non-aqueous solutions of salts, A., ii, 385, 498.

Arthur. See Siegmund Thieme, Gabriel.

Thierfelder, Hans, E. von Cramm, and Alfred Walther, polypeptides containing glutamine and the question of the occurrence in proteins, A., i, 388.

See Carl Dietrich Thoerl, Herbert. Harries.

Thomas, A. W. See Henry Clapp Sherman.

Thomas, (Miss) Doris Feltham. David Runciman Boyd. See

Thomas, John. See William Rintoul. Thomas, Karl, and M. G. H. Goerne,

origin of creatine. III., A., i, 197. Thomas, Karl, and Herbert Schotte, a new instance of  $\beta$ -oxidation in the animal body, A., i, 301.

Thomas, William. See Frans Maurits Jaeger.

Thornton, William Mandell, ignition of gases by hot wires, A., ii, 501.

Thorp, Lambert, analgesic substance and process of making, A., i, 13.

Thorpe, Jocelyn Field, the chemistry of the glutaconic acids. XI. The occurrence of 1:3-addition to the normal form, T., 679.

Thorpe, Jocelyn Field. See also William Henry Gough, Christopher Kelk Ingold, and George Armand Robert Kon.

Vincent, Tideswell. Frederick and Richard Wheeler, Vernonchemical investigation of banded bituminous coal; studies in the composition of coal, T., 619. the oxidation of coal, T., 895.

Tillmans, Josef, estimation of the reaction of natural waters, A., ii, 477.

Tingle, Alfred, estimation of morphine in complex products. I. Revision of the analytical reactions involved, A., ii, 87.

estimation of morphine in complex products. II. Mixtures containing morphine as a simple salt, A., ii,

estimation of morphine in complex products. III. Opium and mixtures containing opium, A., ii, 175.

Tingle, Alfred. See also F. W. Babington.

Tingle, John Bishop, obituary notice of, T., 453.

Tingle, John Bishop, and Walter Albert Lawrance, constitution of certain polynitro-compounds, A., i, 394.

Titley, Alan Francis. See Sydney Barratt, and James William McBain.

Todd, George W., and S. P. Owen. influence of temperature on homogeneous gas reactions, A., ii, 103.

a vapour pressure equation, A., ii, 495.

Tolman, Richard C., and Russel S. Bracewell, molecular mechanism of colloidal behaviour. II. The swelling of fibrin in alkalis, A., ii, 499.

Tolman, Richard C., Roscoe H. Gerke, Adin P. Brooks, Albert G. Herman. Robert S. Mulliken, and Harry De W. Smyth, relation between intensity of Tyndall beam and size of particles, A., ii, 205.

Tolman, Richard C., L. H. Reyerson, Adin P. Brooks, and Harry De W. Smyth, electrical precipitator for

analysing smokes, A., ii, 244.
Tolman, Richard C., L. H. Reyerson, Elmer B. Vliet, Roscoe H. Gerke, and Adin P. Brooks, relation between the intensity of Tyndall beam and concentration of suspensions and smokes, A., ii, 180.

Tolman, Richard C., and Allen E. Stearn, molecular mechanism of colloidal behaviour. I. The swelling of fibrin in acids, A., ii, 101.

Tolman, Richard C., and Elmer B. Vliet, tyndallmeter for the examination of disperse systems, A., ii, 180.

Tolman, Richard C., Elmer B. Vliet, W. McG. Pierce, and R. H. Dougherty, disappearance of smoke in a confined

space, A., ii, 180.
Tomaschek, Rudolf. See Alfred Eckert. Toquet. See René Dubrisay.

Torrance, D. Merrill, diffusion of double salts, A., ii, 393.

Tottingham, W. E., and A. J. Beck, the opposed action, antagonism, of manganese and iron on the growth of

wheat, A., i, 510.
Tourneux, C., combinations of mercuric chloride and the alkali chlorides, A.,

ii, 344.

Trannoy, René. See Daniel Berthelot. Traube, Isidor, physical and chemical theories [of the action of toxins, dyes, etc.], A., ii, 220.

colloidal processes in the setting of plaster; structure of plaster of Paris,

A., ii, 499.

Traube, Isidor, and Hedwig Rosenstein, action of capillary-active substances on plant seeds, A., i, 509.

Traube, Wilhelm, and Elisabeth Brehmer, preparation of aminosulphonic acids by the aid of salts of fluorosulphonic acid, A., i, 434.

Traube, Wilhelm, J. Hoerenz, and F.

fluorosulphonic acid, Wunderlich, and fluorosulphonates, sulphuryl

fluoride, A., ii, 364.

Traube, Wilhelm, and Anna Krahmer, preparation of the fluorides of organic acids by means of fluorosulphonic acid and fluorosulphonates, A., i, 431.

Trautz, Max, the range of existence of substances, kinetic analysis, and the estimation of vapour pressures from reaction velocities, A., ii, 55.

evaporation and condensation velocities and the calculation of chemical constants from the density of the condensate, A., ii, 137.

velocity of reaction in the system  $2NO + O_2$ , A., ii, 143.

chemical processes in solution and their velocity, A., ii, 327. triatomic nitrogen, N<sub>3</sub>, A., ii, 510.

Trautz, Max, and Divacar S. Bhandarkar, the thermal decomposition of

phosphine, A., ii, 277.

Travers, A., analysis of aluminium alloys, A., ii, 81.
analysis of zirconium minerals and

alloys, A., ii, 300. analysis of steel, A., ii, 429.

Treadwell, W. D., separation of hydroxides in the ammonium sulphide group, A., ii, 35.

calculation of the equilibrium constants in the Deacon process, A., ii, 455.

Paul, Trendelenberg, quantitative measurements of the fission of hexamethylenetetramine, A., ii, 403.

Trieschmann, Jacob E., nitrogen and other compounds in rain and snow, A., i, 511.

Tripier. See René Dubrisay.

Trumbull, H. L. See W. H. Ross.
Tsakalotos, Demetrius E., and D.
Dalmas, the red iodotannic reagent,

A., ii, 169.

Tschirner, Frederick. See Eugen Bamberger.

Tschudi, Peter. See Friedrich Kehrmann. Tschugaev, Leo Alexandrovitsch, a new method of preparation of certain complex compounds of platinum and of its analogues, A., ii, 292.

Tsuchihashi, R., and S. Tasaki, essential oil and wax of Shuei flower (Jasminum

odoratissimum), A., i, 142.

Tsudji, Midori, the formation of phenol, A., i, 364.

Tsujimoto, Mitsumaru, shark and ray liver oils, A., i, 138.

Tunmann, Otto, the alkaloids in plant injury, A., i, 510.

detection of the poisons which can be extracted with ether from the acid aqueous solution in the Stas-Otto process. III., A., ii, 306.

detection of nicotine, A., ii, 307.

Turner, Eustace Ebenezer. See George
Joseph Burrows, and Jacob Krizewsky. **Tutin**, Frank, modification of Webster's test for trinitrotoluene in urine, A., ii, 82.

Tutin, Frank. See also George Barger. Tutton, Alfred Edwin Howard, monoclinic double selenates of the iron group, A., ii, 346.

monoclinic double selenates of the cobalt group, A., ii, 417. Tymich, F. See Julius Stoklasa.

## U.

Ueno, Seiichi, negative catalysts in the hydrogenation of oils, A., ii, 19.

Ullmann, Fritz, and Paul Kertész, cyclic compounds from anthraquinone - 1 sulphonic acid, A., i, 333.
Unterkreuter, Erna. See Alois Zinke.
Urbach, W. See G. Jantsch.

Urbain, Édouard, and Clair Scal, the decomposition of dielectric liquids in the midst of which an arc passes, A., ii, 214.

Urbain, Edouard. See also Victor Grig-

Urbain, Georges. See Eugène Cornec. Urban, Franz. See Heinrich Schur. Urk, H. W. van, simple distillation and

extraction apparatus, A., ii, 463.

Ursprung, A., the absorption curve of the green colouring matter in living leaves, A., i, 112.

Ursprung, A., significance of the wavelength for starch-formation [in the green leaf], A., i, 112.
Usher, Francis Lawry, and Ramaven-

katasubbier Venkateswaran, the po-tential of a nitrogen electrode, T.,

Utz, Franz, volumetric estimation of mercury salts and the estimation of mercury in mercury chloride com-

presses, A., ii, 428. detection of formaldehyde and hexamethylenetetramine in urine, A., ii,

436.

# ٧.

Vahle, W., the arc spectrum of zirconium, measured in terms of the international normal, A., ii, 3.

Vahlen, Ernst, the metabolin and antibolin of yeast, A., i, 613.

Valeur, Amand [Charles], an anomaly in the solubility of sparteine, A., i, 454. Valeur, Amand, and Emile Luce, action

of hydrogen peroxide on sparteine and isosparteine, A., i, 414. Valli-Douau, Lucien. See Paul Nico-

Vanzetti, Bartolo Lino, freezing of silicic acid coagula and the problem of the hydrates of silica. I. and II., A., ii, 412.

Vautin, Claude T. J., chemistry of aluminium and aluminium alloys, A., ii,

Vavon, Gustave, and Faillebin, hydrogenation of piperonal ketone and of dipiperonal ketone, A., i, 447.

Vecchiotti, Luigi, action of mercuric acetate on p-toluidine. I., A., i,

Vegard, L., X-ray spectra and the constitution of the atom. II., A., ii,

explanation of the Röntgen spectrum and the constitution of the atom, A., ii, 207.

crystalline structure of alums and the rôle of water of crystallisation, A., ii, 207.

crystal lattices and Bohr's atom model, A., ii, 453.

Velardi, Giuseppe, estimation of cyanides, cyanates, and bromides present together, A., ii, 483.

Venable, F. P., and F. R. Blaylock, basic zirconyl benzoates and salicyl-

ates, A., i, 15. Venable, F. P., and L. V. Giles, zirconyl basic chromate, A., ii, 29.

Venator, O., relationships between absolute temperatures and the corresponding absolute pressures of moist vapours, A., ii, 11.

Raoul Pictet's equation of condition

for moist vapours, A., ii, 11.

relationship between absolute temperature and absolute pressure in kilograms per square cm. for moist vapours, A., ii, 11.

Ramavenkatasubbier. Venkateswaran,

See Francis Lawry Usher.

Verkade, P. E., the velocity of hydration of the anhydrides of some fatty acids, A., i, 4.

Verley, Albert, constitution of geraniol, linalool, and nerol, A., i, 146.

Vermeulen, Hendrik, some derivatives of resorcinol, A., i, 123.

Vernes, Arthur, and Roger Douris, the action of ferric thiocyanate on normal human serum, A., i, 104.

Verzár, Fritz, the inter-relationship of certain processes in metabolism of Bacillus coli communis, A., i, 55.

Vigreux, Henri, apparatus, A., ii, 166.

Vila. See Pierre Mazé.

Villiers, [Charles] Antoine [Théodore], estimation of nitrogen and ammonia as ammonium chloride, A., ii, 350.

Villumbrales, Vicente, the conductivity as indicator in titrations with potassium permanganate, A., ii, 299.

**Viola**, C, point of transformation between reversible modifications, A., ii, 51.

Violle, H., the peroxydases in milk, A., i, 462.

Vles, Fred., the serial constitution of absorption spectra, A., ii, 254.

Vliet, Elmer B. See Richard C. Tolman. Völker, W., the emission of positive electricity by salts of the alkalis and alkaline earths under the influence of canal rays, A., ii, 43.

Vogel, O. See O. Bauer.

Vogel, Rudolf, ternary alloys of aluminium with magnesium and copper, A., ii, 414.

Vogelenzang, E. H. See I. M. Kolthoff. Vogelson, H. See Paul Wenger.

Vogl, Alfred, occurrence of allantoin in the rhizome of Symphytum officinale and other Boraginacæ, A., i, 60.

Voisenet, E., a bacterium present in water and in bitter wines which is capable of dehydrating glycerol; a new reaction for glycerol, A., i, 55.

Vollweiler, E. H. See Roger Adams. Volmer, Max, simple efficient vacuum pump for laboratories, A., ii, 225.

Volmer, Max. See also Otto Stern. Voorhees, V. See Roger Adams.

Vorländer, Daniel, the conception of internal molecular strain and the theory of benzene, A., i, 319.

detection of hydrogen chloride in chloroform, A., ii, 76. estimation of halogens in organic com-

pounds, A., ii, 197. liquid crystals and anisotropic liquids,

A., ii, 322.

Vorländer, Daniel, and Ilse Ernst, rhythmic solidification, A., ii, 322.

Vorländer, Daniel, and Franz Janecke, oxidation of o-tolyltrimethylammonium salts to o-benzobetaine, A., i, 262.

Vorländer, Daniel, and Ernst Mittag, triphenylmethyl sulphur compounds, A., i, 270.

Vorländer, Daniel, and Johannes von Pfeiffer, diacetylindigotin, A., i, 225. Vorländer, Daniel, and Ernst Siebert,

bromination and nitration of aromatic quaternary ammonium salts, A., i, 320.

Vorländer, Daniel, and Elisabeth Spreckels, transformation of quaternary ammonium salts into tertiary amines with sodium ethoxide, A., i, 262.

Votoček, Emil, and epifucose, A., i, 472. J. Červemý,

Vournasos, Alexander Ch., the normal nitrides of nickel and cobalt, A., ii,

Vürtheim, A., recovery of perchlorate residues from potassium estimations, A., ii, 60.

Vuilleumier, E. See Volkmar Kohlschütter.

## w.

Wachman, J. D. See Lawrence Joseph Henderson.

Waddell, John, rapid method for the estimation of titanium in titaniferous iron ores, A., ii, 481. modifications of Pearce's method for

arsenic, A., ii, 522.

Vaentig, Percy, and W. Gierisch, simple method for the determination of the digestibility of the cellulosic Waentig, part of vegetable fibres, especially of woody fibres, A., ii, 173.

Wakeman, Alfred John. See Thomas Burr Osborne.

Waksman, Selman A., importance of mould action in the soil, A., i, 116. Walker, Eric, and Thomas Campbell molecular refractivity

cinnamic acid derivatives, T., 1243. Walker, Florence. See Henry Clapp

Sherman.

Walker, Thomas Leonard, mineralogy of the H.B. mine, Salmo, British Columbia, A., ii, 71. alactitic barytes

stalactitic  $\mathbf{from}$ Madoc,

Ontario, A., ii, 368.

Wallach, Otto, Emma Grote, and Max Staudacher, terpenes and ethereal oils. CXXVI., A., i, 276.

Walther, Alfred. See Hans Thierfelder.

Walther, See Volkmar Kohl-G. schütter.

Walton, James Henri, and Chuan Ling Liang, new additive compounds of quinoline with certain inorganic salts, A., i, 415.

Wandenbulcke, F. See F. Dienert. Ward, Thomas John, rapid determina-

tion of solubility, A., ii, 222. Warder, Markus. See Hans Rupe.

Ware, Gertrude M. See Harold A.

Wartenberg, H. von, and G. Witzel, some molecular heats at very high

temperatures, A., ii, 389.
Washburn, Edward Wight, and John W. Read, laws of concentrated solutions. VI. The general boiling-point law, A., ii, 447.

Richard, and Marianne Wasicky, Joachimowitz, content of hydrastine and berberine in Hydrastis canadensis grown in Austria (at Korneuberg) and estimation of berberine, A., i, 564.

Wasicky, Richard, and Adolf Mayrhofer, identification of arsenious acid; reply to Tunmann, A., ii, 296.

Watanabe, C. K., metabolic changes induced by the administration of guanidine bases. V. Change of phosphate and calcium content in serum in guanidine tetany and the relation between the calcium content and dextrose in the blood, A., i, 104.

Watanabe, C. K., and Victor Caryl Myers, a delicate method of determining invert activity, A., i, 181.

Waterman, Hein Israel, the researches of Willstätter on the assimilation of carbon dioxide, A., i, 140.

Watkins, Stewart Byron, and Henry George Denham, auto-complexes in solutions of cupric chloride and cupric bromide, T., 1269.

Watson, Thomas Leonard, the colour change in vivianite, A., ii, 110.

Watts, Oliver P., action of oxygen on the precipitation of metals from cyanide solutions, A., ii, 418.

Way, D. Herbert. See Henry Jermain Maude Creighton.

Wayling, Harbord George, latent heats of fusion and their relation to molecular composition, A., ii, 218.

Waynick, D. D., estimation of carbon in soils by the wet combustion method,

A., ii, 371.

Weaver, E. R., bibliography of helium literature, A., ii, 366.

Weber, S., thermal conductivity of neon, A., ii, 94.

Webster, (Miss) Dorothy. See Percy Faraday Frankland.

Wedekind, Edgar, and T. Goost, the asymmetric nitrogen atom. Abnormal quaternary ammonium salts, A., i, 285.

Wedekind, Edgar, and H. Rheinboldt, the Congo dyes and adsorption as the preliminary phase of chemical union, A., ii, 270.

Weehuizen, E., and (Mrs.) F. Weehuizen, micro-estimation of fat, A., ii,

Weehuizen, (Mrs.) F., the phenol of the leaves of Coleus amboinicus, Lour (C. carnosus, Hassk.), A., i,

phenylurethanes of terpene alcohols and phenols, A., i, 165.

impurity in ethyl ether giving a blue coloration with benzidine, A., ii, 175.

Weehuizen, (Mrs.) F. See also E. Weehuizen.

Wege, W. See August L. Bernoulli. Wegscheider, Rudolf, acid esters of 2:6-dimethylcinchomeronic acid. A., i, 36.

catalytic action of hydrogen ions in

hydrolyses, A., ii, 224. conception of chemical elements and atomic weight, A., ii, 224.

egscheider, Rudolf, Hans Malle, Alfred Ehrlich, and Robert Skutezky, Wegscheider, 4-aminoisophthalic acid

derivatives, A., i, 76.
Wegscheider, Rudolf, and (Frl.) Lilly Ripper, hydrolysis of ethyl acetate by alcoholic sodium hydroxide, A., ii, 16.

Wehmer, C., fumaric acid fermentation of sugar, A., i, 58, 368.

action of coal gas on plants. IV. Action of coal gas on the root systems of trees; cause of the action of the gas, A., i, 114. action of coal gas on plants. V. Action on trees; hydrocyanic acid

as the most detrimental constituent of gas, A., i, 304.

Weichardt, Wolfgang, and Hermann Apitzsch, excitation of ferment action, A., i, 109.

Weidmann, H. See P. Karrer.

Weinberg, A. von, the benzene problem. A., i, 314.

Weinhagen, Albert B., vegetable and animal fats and waxes. II., A., i, 114.

the muscarine question. I. Double salts of certain bases with platinum, A., i, 474.

Weinhagen, Albert B. See also Ernst Winterstein.

Weinland, Rudolf Friedrich, and Gustav Bärlocher, compounds of phenols, phenolic ethers, and salicylaldehyde with normal salts, A., i, 202.

Weinland, Rudolf Friedrich, and Paul Gruhl, compounds of arsenious acid with iodides of multivalent metals, A., ii, 411.

Weinland, Rudolf Friedrich, and Jose, Heinzler, compounds of arsenic acid

and catechol, A., i, 442. Weinland, Rudolf Friedrich, and Walter Hieber, complex compounds of tervalent iron with hypophosphorous acid, A., ii, 233.

the constitution of the ferric salts of hypophosphorous acid, A., ii,

Weise, G. L. See Alexander Gutbier. Weiser, Harry B., crystalloluminescence. II. Triboluminescence and crystallo-

luminescence, A., ii, 40. Weiser, Harry B., and Allen Garrison, flame reactions of selenium and tellurium, A., ii, 509.

Weiser, Harry B., and J. L. Sherrick, adsorption by precipitates. I., A., ii,

Weiser, Harry B., and G. E. Wightman, preparation of tetrachloroethylene, A., i, 429.

Weissgerber, 2:3-dimethyl-Rudolf,

naphthalene in coal tar, A., i, 318.

Weissgerber, Rudolf, and O. Kruber, the dimethylnaphthalenes of coal tar, A., i, 315.

Weitz, Ernst, condensation products of o-phthalaldehyde. IV. Condensation of o-phthalaldehyde with dimethylaniline, A., i, 290.

some anthrone derivatives, A., i, 291. Wells, Albert H., physiologically active constituents of certain Philippine medicinal plants. III., A., i, 493.
Wells, P. V., and Roscoe H. Gerke,

oscillation method for measuring the size of ultramicroscopic particles, A., ii, 187.

Wells, Roger Clark, solubility of calcite in sea-water in contact with the atmosphere and its variation with temperature, A., ii, 512.

Wenger, Paul, and H. Vogelson, new separation of aluminium and vanad-

ium, A., ii, 524.

Went, F. A. F. C., course of the formation of diastase by Aspergillus niger, A., i, 189.

Wenzel, Franz, chemical structure of atoms. I.-IV., A., ii, 145.
 Werner, Emil Alphonse, the preparation

of butylamine and of n-dibutylamine; the separation of aliphatic amines by partial neutralisation, T., 1010.

the constitution of carbamides. IX. The interaction of nitrous acid and mono-substituted ureas; the preparation of diazomethane, diazoethane, diazo-n-butane, and diazoisopentane from the respective

nitroso-ureas, T., 1093. the constitution of carbamides. The behaviour of urea and of thiourea towards diazomethane and diazoethane respectively; the oxidation of thiourea by potassium per-

manganate, T., 1168.

Werner, Franz Felix, certain metalloferrocyanide compounds, their behaviour towards chlorine and bromine, and their use in analysis, A., i, 313.

Wesselow, Owen Lambert Vaughan de, the picric acid method for the estimation of sugar in blood, and a comparison of this method with that of Maclean, A., ii, 435.

Wester, D. H., a sensitive reaction for manganous salts, A., ii, 479.

Wetzel, N. C. See Paul J. Hanzlik. Weyman, G., relation between molecular

structure and the activity towards hydrogen sulphide of oxide of iron, A., ii, 66.

Wheeler, Alvin Sawyer, and J. W. Scott, halogenation of juglone; new

type of naphthalene dyes, A., i, 490. Wheeler, Richard Vernon, the inflammation of mixtures of ethane and air in a closed vessel; the effects of turbulence, T., 81.

Wheeler, Richard Vernon. See also Walter Mason, William Payman, and Frederick Vincent Tideswell.

Whelan, P. See Alfred Godfrey Gordon Leonard.

Wherry, Edgar Theodore, crystallography and optical properties of three aldopentoses, A., i, 65.

Wherry, Edgar Theodore, the statement of acidity and alkalinity, with special reference to soils, A., i, 428.

mimetite, thaumasite, and wavellite, A., ii, 162.

Wherry, Edgar Theodore, and Elliot Quincy Adams, crystallography and optical properties of pinaverdol, A., i, **496.** 

Wherry, Edgar Theodore, and Elias Yanovsky, the crystallography of morphine and certain of its deriva-

tives, A., i, 597. Wherry, Edgar Theodore. See also O. Ivan Lee.

Whiston, John Reginald Harvey. See David Leonard Chapman.

White, Albert Greville, and Tudor Williams Price, the determination of ignition-temperatures by the soap-bubble method, 1248.

the ignition of ether-alcohol-air and acetone-air mixtures in contact with

heated surfaces, T., 1462.

White, E. C., and Solomon Farley
Acree, the quinone-phenolate theory of indicators; the reactions of phenolsulphonphthalein and its and nitro-derivatives. monobasic and dibasic salts, A., i, 537.

White, E. C. See also J. Edward Burns.

White, J. M., arsenical medical product and process of producing same, A., i, 560.

White, Walter P., calorimetric lag, A., ii, 46.

the conditions of calorimetric precision, A., ii, 46.

calorimetric methods and devices, A., ii, 47.

specific heat determinations at higher temperatures, A., ii, 133.

specific heats of silicates. II., A., ii,

Wibaut, Johan Pieter, the behaviour of sulphur towards carbonaceous matter at high temperatures, A., ii, 190.

Wichers, Edward, B. Smith Hopkins, and Clarence William Balke, rare earths. VIII. Separation of yttrium from erbium; the ratio Er<sub>2</sub>O<sub>3</sub>:2ErCl<sub>3</sub>, A., ii, 27.

Wichers, Edward. See also L. J. Gure-

Wichmann, A., secretion of phosphates in the stems of djatikapur [Tectona grandis, L.], A., i, 564.

Wichmann, H. J. See R. S. Hiltner.

Widman, Oskar, a new group of cyclo-propane derivatives. III. Scope and mechanism of the reaction; behaviour of 3-acetylcoumarin with solutions of alkali hydroxides, A., i, 32.

Widmer, Fr. See P. Karrer. Wieland, Heinrich, preparation of true vat dyes from di- and tri-aryl-

methane dyes, A., i, 99.

XX. Oxidaditertiary hydrazines. tion of secondary and tertiary aromatic amines, A., i, 323.

vat-like reduction products of the triphenylmethane dyes, A., i, 355.

Wieland, Heinrich, and Erich Boersch, V. The reduction of bile acids. dehydrocholic and dehydrodeoxycholic acids, A., i, 572.

Wieland, Heinrich, Boris Dolgow, and Talbot J. Albert, ditertiary hydra-XXI. Chlorotriary Imethanes and diarylamines, A., i, 324.

Wieland, Heinrich, Euklid Sakellarios, and E. Blumich, nitroethylene, A., i,

307.

Wieland, Heinrich, and (Frl.) Hedwig Stender, bile acids. IV. The synthesis of glycodeoxycholic and taurodeoxycholic acids, A., i, 576. 'ightman, G. E. See Harry B.

Wightman, G. E. Weiser.

Wilbuschewich, L. See P. Karrer.

Wildman, E. A., and Harold Gray, the preparation of αβ-dichloroethyl ether, A., i, 515.

Wiley, A. See George J, LeslieKelley.

Wilhelm, Arno. See Walther Schüler. Wilkendorf, Rudolf, some derivatives of piperonaldehyde, A., i, 348.

Wilkendorf, Rudolf. See also Erich Schmidt.

Will, (Miss) Helen Reid. See Joseph Knox.

Willenberg, Hertha. See Ernst Müller. Williams, Adolfo. See Horacio Damianovich.

Williams, Alexander Mitchell, adsorption isotherm at low concentrations, A., ii, 392.

adsorption of gases at low moderate concentrations. I. duction of the theoretical adsorption isostere and isotherm. П. Experimental verification of the form of the theoretical isosteres and isotherms, A., ii, 496.

adsorption of gases at low and moderate concentrations. III. Experimental verification of the constants in the theoretical adsorption

isostere, A., ii, 496.

Williams, J. Guilfoyle, estimation of perchlorates, alone, or in the presence of chlorates and chlorides, A., ii, 348.

Williams, L. D., an electrolytic hydrogen generator for the laboratory, A., ii. 463.

Williams, Maud, the influence of immersion in certain electrolytic solutions on permeability of plant cells, A., i, 59.

Williams, Margaret Mary. See JohnRead.

Williams, Roger J., the vitamine requirement of yeast; a simple biological test for vitamine, A., i, 463.

Williamson, Erskine D. See Leason H. Adams.

Willstätter, Richard, and Daniel Hatt, certain aliphatic compounds with numerous side-chains, A., i, 431.

Willstätter, Richard, Otto Schuppli, and Erwin W. Mayer, researches on chlorophyll. XXV. Phytol. II., A., i, 448.

Wilson, John Arthur, retardation by sugars of diffusion of acids in gels, A., ii, 185.

Wilson, Stanley Pierce. Frank Coward. See Hubert

Wilson, T. E. See J. D. Cauwood.

Wimmer, J., influence of ultra-red characteristic frequencies on the coefficient of refractivity in the visible portions of the spectrum, A., ii, 1.

calculations of ionic charges in crystals, A., ii, 189.
Winchell, A. N., racewinite, a new mineral from Utah, A., ii, 111.

Windaus, Adolf, cholesterol. XXVII. Isomerism of cholestane and  $\psi$ -cholestane, A., i, 204.

Windaus, Adolf, and O. Dalmer, chole-XXVI. Ring systems in cholesterol, A., i, 203.

Winkel, H., dialkyldiarylcarbamides, A., i, 584.

Winkler, Ludwig Wilhelm, gravimetric analysis. VI. Estimation of calcium. VII. Separation of calcium from magnesium, A., ii, 34. gravimetric analysis. VIII. Separa-

tion of calcium from magnesium,

A., ii, 80.

analysis. IX. Estimagravimetric tion of calcium in the presence of phosphoric, arsenic, and boric acids, A., ii, 119.

gravimetric analysis. X. Estimation of phosphoric acid, A., ii,

243.

Winkler, Ludwig Wilhelm, gravimetric analysis. XI. Estimation of arsenic acid, A., ii, 243.

stabilising normal alkali solution, A., ii, 423.

Winternitz, Erich. See Fritz Paneth. Winterstein, Ernst, occurrence of iodine

in plants, A., i, 190. preparation of sucrose from plants, A., i, 373.

the constitution of surinamine, A., i, 415.

a component of the fat of Bassia longifolia, L. (Illipe malabrorum, Kön) and Bassia latifolia, A., i,

constituents of Emmenthaler cheese, V., A., i, 428.

vicine. I., A., i, 501.

Winterstein, Ernst, J. Keller, and Albert B. Weinhagen, ricinine, A., i, 500.

Winterstein, Ernst, and M. Maxim, saponins. I., A., i, 214.

Winterstein, Ernst, and Albert B. Weinhagen, nicotinic acid derivatives. II. Guvacine and isoguvacine, A., i, 171.

Winterstein, Hans. See Else Hirsch-

Wintgen, Robert, vapour pressure and latent heat of vaporisation of silicon hydrides and their simple derivatives,

A., ii, 218. Wirth, Th. See Adolf Grün. Wise, Louis Elsberg, Elliot QuincyAdams, J. K. Stewart, and Carl H. Lund, synthesis of photosensitising dyes; pinaverdol and pinacyanol, A., i, 416.

Wise, Lowis Elsberg. See also Carl H. Lund, and Louis A. Mikeska.

Wislicenus, Wilhelm, and Ernst A. reduction of methyl Bilhuber, formylphenylacetate to methyl trop-

ate, A., i, 19.
action of phosphorus pentachloride
on formylphenylacetic ester, A., i,

Wislicenus, Wilhelm, and Peter Neber, condensation of ethyl phthalate with fluorene, A., i, 535.

Wittka, Franz. See Adolf Grün.

Witzel, G. See H. von Wartenberg. Wlk, Otto. See Robert Kremann.

Wöber, A., sensitiveness of the most usual tests for copper, A., ii, 35.
Wogrinz, Alfred, and J. Kuber, estima-

tion of chlorate and perchlorate in potassium nitrate, A., ii, 167.

Wohl, Alfred, bromination of unsaturated compounds with N-bromoacetamide; the law of the course of chemical reactions, A., i, 198.

Wohlgemuth, J., new theories of the formation and action of diastase, A.,

Wolf, Kuno, estimation of molybdenum A., ii, 120.

Wolferts, E. See Hugo Neubauer.

Wolff, Hans, the specific gravity and refractive power of solutions of glycerol, A., i, 307.

detection of methyl alcohol, A., ii, 482.

Wolman, Abel, and Linn H. Enslow. chlorine absorption and chlorination of water, A., ii, 197.

Wood, John Kerfoot. See Alexander McKenzie.

Wood, Joseph T., trypsin, and a new method of purifying enzymes, A., i, 102.

Woodman, Herbert Ernest. See Harold Ward Dudley.

Workman, Albert C. See Firman E. Bear.

Woudstra, H. M., the Brownian movement and the coagulation of colloidal solutions, A., ii, 52.

Wray, Edward, the indophenine reaction, A., ii, 204.

Wren, Henry. See Alexander McKenzie. Wright, A. H. See Harry L. Fisher. Wright, L. E. See Otto Folin.

Wright, Robert, the effect of some simple

electrolytes on the temperature of maximum density of water, T., 119.

molecular-weight determination by direct measurement of the lowering of the vapour pressure of solutions, T., 1165.

Wright, W. C. See George Leslie Kelley.

Wu, Hsien. See Otto Folin. Wülfing, E. A., viriding and its relation to andalusite, A., ii, 238.

Wülfing, Johann A., preparation of anhydrous dextrose sodium iodide, A., i, 574.

Wunderlich, F. See Wilhelm Traube. Wunschendorff, H. E., the proteins of fenugreek seeds, A., i, 502.

Wurthmann, B. See Karl Andreas Hofmann.

Wybert, Ernst. See Max Hartmann. Wyczatkowska, Wanda. See Julius

von Braun. Wyeth, Frank John Sadler, the effect of acids on the growth of Bacillus coli, A., i, 188.

the effects of acids, alkalis, and sugars on the growth and formation of indole by Bacillus coli, A., i, 366.

¥.

Yamaguchi, Seitaro. See Heisaburo

Yamakawa, I., glycogen estimation, A.,

Yamamoto,  $Ry\bar{o}$ , the insecticidal principle of Chrysanthemum cinerariifolium (insect powder), A., i, 465.

Yanovsky, Elias. See Edgar Theodore Wherry.

Yen, Kia-Lok, absolute determination of the coefficients of viscosity of hydrogen, nitrogen, and oxygen, A., ii, 495.

Yoder, Lester, adaptation of the Mohr volumetric method to the general estimation of chlorine, A., ii, 424.

Yoshida, Usaburo, spectrum lines of oxygen and nitrogen in an intense electric field, A., ii, 379.

lithium spectrum in an electric field,

A., ii, 380. Young, J F. T. See John Cunningham McLennan.

Youngburg, Guy E. See Otto Folin.

#### Z.

Zart, Arthur. See Carl Dietrich Harries. Zdobnicky, Wenzel. See Julius Stoklasa,

Zealley, A. T. S. See Harold Cecil Greenwood.

Zechner, Ludwig. See Robert Kremann, and Alois Zinke.

Zeehuisen, H. See Hendrik Zwaardemaker.

Zehnder, L., the atomic ether, hydrogen atom, and Planck's energy quantum, A., ii, 278.

Zeitfuchs, E. H., a device for introducing a vapour into a gas, A., ii, 59.

Zeller, E. See P. Karrer.

Zellner, Julius, the chemistry of the higher fungi. XIII. Scleroderma higher fungi. vulgare, Fr., and Polysaccum crassipes, D.C., A., i, 140.

Zellner, Julius, chemical composition of Agave americana, L.; the chemistry of succulent plants in general, A., i, 190.

Zipfel, Lotte. See John Eggert.

Zies, Emanuel George. See Eugene Thomas Allen.

Zilva, Sylvester Solomon, the action of ultraviolet rays on the accessory food factors, A., i. 461.

Zilva, Sylvester Solomon. See also Arthur Harden.

Zincke, Theodor, and O. Preiss, action of nitric acid on halogen derivatives of o-alkylphenols. III. Nitric acid derivatives of chlorinated o-cresols, A., i, 154.

Zincke, Theodor, and Grete Schürmann, chlorotrihydroxytoluenes, A., i, 156.

Zinke, Alois, Hans Lieb, and Ludwig Zechner, constituents of resins. III. Further investigation of siaresinol from Siamese gum benzoin, A., i, 128.

Zinke, Alois, and Erna Unterkreuter, constituents of resins. IV. β-Dammar-resin, A., i, 166.

Zinke, Alois. See also Roland Scholl.

Zive, J. See A. Orékhoff.

Zoch, Ilse, exchange of the bases of zeolites in neutral salt solutions, A., ii, 470.

Zotier, V., calculation of possible error in volumetric analysis, A., ii, 347.

Zsigmondy, Richard, and Gerhart Jander, chemical analysis with membrane filters, A., ii, 520.

Zumstein, R. V., regularities in the

spectra of lead and tin, A., ii, 309.

Zwaardemaker, Hendrik, and F. Hogewind, spontaneous transformation to a colloid state of solutions of odorous substances by exposure to ultraviolet light, A., ii, 14.

Zwaardemaker, Hendrik, and H. Zeehuisen, the sign of the electrical phenomenon and the influence of lyotropic series observed in this phenomenon, A., ii, 92.

Zybs, Pauline. See Friedrich Kehrmann.